

**OUT OF THE RUT: DEVELOPMENT AND EVALUATION OF A RELAPSE  
PREVENTION PROGRAMME FOR DISQUALIFIED DRIVERS**

---

A thesis  
submitted in fulfilment  
of the requirements for the Degree  
of  
Doctor of Philosophy in Psychology  
in the  
University of Canterbury  
by  
Leonard Wilhelm Bakker

---

University of Canterbury  
2000

IV  
6425  
N5  
B168  
2000

## CONTENTS

<b>Abstract.....</b>	<b>i</b>
<b>Acknowledgements.....</b>	<b>ii</b>
<b>List of Tables .....</b>	<b>iv</b>
<b>List of Figures.....</b>	<b>v</b>
<b>Chapter 1: The Driving While Disqualified Problem.....</b>	<b>1</b>
<b>Chapter 2: Literature Review .....</b>	<b>6</b>
The Aetiology of Driving Offending.....	6
Theories of Driving Offending .....	7
Problem Behaviour Theory .....	7
Social Maladjustment Theory .....	9
Personal Maladjustment Theory.....	10
Impulse Control Deficits Theory.....	11
Discussion of Theories .....	12
Donovan's High Risk Driving Model .....	13
Intervention Approaches for Driving Offending .....	15
Traditional Driving Treatment Interventions .....	18
<b>Chapter 3 - Relapse Prevention .....</b>	<b>22</b>
Outline .....	22
RP Models Prior to the DOT Programme.....	22
An Overview of Marlatt and Gordon's Relapse Prevention.....	26
Antecedents to High Risk Situations.....	28
From High Risk to Lapse .....	30
From Lapse to Relapse.....	32
Application of Marlatt's Model to Sex Offenders.....	33
Application of RP to Violent Offenders .....	36
Critique of RP Models.....	39
Critique of Pither's and Prisgrove's Models.....	43
Research on RP Components.....	44
Relapse Precipitants .....	44
Coping Strategies .....	47
Self-Efficacy.....	49
Outcome Expectancies .....	50

Abstinence Violation Effect .....	51
Conclusion.....	52
Treatment Using Marlatt's RP Model .....	53
RP Outcome Studies .....	57
Substance Abuse .....	58
Non-Substance Outcome Studies .....	70
Other Interventions Including Offender Treatment .....	73
Discussion of Outcome Studies .....	75
Issues related to applying RP for DWD Offending.....	76
<b>Chapter 4: Post 1993 Developments in Driving and Relapse Prevention .....</b>	<b>81</b>
Post Driving Offender Treatment Programme Research on Driving Offenders .....	81
The Offense Process of DWD drivers.....	81
Outcome Studies in Driving .....	87
Post DOT Programme Treatment Literature.....	87
RP Theory Post 1993 .....	88
RP Outcome Studies Post 1994 .....	90
<b>Chapter 5 - Hypotheses.....</b>	<b>93</b>
<b>Chapter 6 – Method .....</b>	<b>96</b>
Programme Development .....	96
Programme Description .....	98
Programme Setting.....	99
Participants .....	100
Assessment.....	100
Programme Content and Design.....	103
Model of Behaviour .....	104
Relapse Prevention Module Part 1 .....	106
Cognitive Restructuring Module.....	108
Anger Management Module.....	110
Social Skills Module .....	111
Problem Solving Module .....	112
The Relapse Prevention Module- Part 2 .....	113
Sundry Sessions .....	114
Maintenance Sessions .....	114
Evaluation Method.....	116
Participants .....	116
Follow up .....	117
Pre and Post Treatment Measures .....	117
<b>Chapter 7 - Results.....</b>	<b>118</b>

Participants .....	118
Control Group .....	118
Recidivism Measures.....	119
Regression Analysis using Survival Analysis .....	122
Pre and Post Test Measures .....	124
Psychometric Scale Statistics .....	124
Psychometric Control Group Scale Comparisons .....	126
Psychometric Scales and Treatment Setting .....	128
Treatment Integrity.....	129
<b>Chapter 8 - Discussion .....</b>	<b>130</b>
The Effectiveness of Relapse Prevention for DWD drivers.....	130
Relapse Prevention in Relation to the Psychology of Criminal Conduct .....	132
Criminal Survival .....	134
DUI Survival .....	136
Relapse Prevention.....	138
The Effect of Treatment Settings.....	143
Pre and Post Treatment Measures and Treatment Effect.....	144
General Issues .....	145
Limitations and Improvements .....	147
Future Research .....	150
Conclusion .....	153
<b>References .....</b>	<b>154</b>
<b>Appendix 1 - The Driving Offender Treatment Scale .....</b>	<b>182</b>
Introduction.....	183
Why are Driving Offenders Important? .....	183
What is Important in Treating Disqualified Drivers? .....	183
<b>Reliability .....</b>	<b>190</b>
Introduction.....	190
Internal Reliability .....	191
Introduction .....	191
Method .....	191
Results and Discussion.....	192
Test Retest Reliability.....	194
Introduction .....	194



Method .....	194
Results and Discussion.....	195
<b>Validity .....</b>	<b>196</b>
Introduction.....	196
<b>Concurrent Validity .....</b>	<b>197</b>
Introduction.....	197
Method.....	197
Results and Discussion .....	197
<b>Predictive Validity.....</b>	<b>199</b>
Introduction.....	199
Method.....	199
Results and Discussion .....	199
<b>General Discussion .....</b>	<b>201</b>
Is the DOT Scale Good Enough? .....	202
<b>Conclusions .....</b>	<b>204</b>
<b>References .....</b>	<b>205</b>
<b>Appendix 2: Driving Offender Treatment Programme Information for Participants.....</b>	<b>208</b>
An Introduction to the Rolleston Driving While Disqualified Treatment Programme.....	208
Assessment and Review of the Programme .....	208
Treatment: 9 Weeks .....	209
Reassessment: One week .....	210
Follow-Up: .....	210

## Abstract

Driving while disqualified, that is during a period of driving license revocation, represents a serious and recurrent social problem, with approximately 54% of convicted individuals being re-convicted in the ensuing six years. This high recidivism rate has been thought to be associated with compulsivity or addictive processes. This study outlines the rationale for, and the development of, a relapse prevention styled, cognitive behavioural treatment programme for offenders convicted of driving while disqualified, and reports on its effectiveness. The major assumption of the relapse-prevention approach is that for many men their driving offenses represent a maladaptive response to stressful events such as interpersonal conflict. Therefore, the primary treatment approach revolves around teaching individuals the habitual nature of their offending and more effective ways to solve their interpersonal problems and to regulate negative affective states.

Results indicated that the 144 treated offenders were re-convicted of further violations of license revocation at a significantly lower rate than a matched comparison group. Although no difference was found for subsequent drunk driving re-convictions, it appears that the programme may have reduced subsequent other criminal offending. In addition, a significant pre to post treatment change on a measure of cognitions related to driving, specifically developed for the programme, was found when compared with a no treatment control group. These results are discussed in terms of their support for the efficacy of a relapse prevention treatment approach to this group of offenders, and for considering disqualified drivers as a distinct subgroup of driving offenders.

## Acknowledgements

I wish to express by sincere appreciation for the contribution, encouragement and support of many of my friends, colleagues and family. I thank my supervisors, Dr Tony Ward and Dr Steve Hudson, for their unending encouragement and tutelage and for providing me with the sense of scholarship necessary for this task. Thanks also to Steve for the idea of doing this thesis in the first place and for patiently nurturing my writing skills.

I owe a considerable debt to many of my colleagues in the Department of Justice and more latterly the Department of Corrections. Particularly Harry Love, the then Director of Psychological Services, David Riley, the Southern Regional Manager, and Christina Rush, formerly the General Manager, Psychological Service. All three have provided me with the time and resources to complete the research and writing of this thesis. They have also continually encouraged my pursuit of this task through many of its more difficult periods and made the process manageable. The staff of the Driving Offender Treatment programme, Robyna Smith, Virginia Wright, Rowena Morgan, Marilyn Cryer, Leonie Wilson, and more latterly, Clare De Goldi, and Diane Davis, is also owed due recognition and thanks. Their enthusiasm, hard work and creativity have helped make an idea become a reality. I also wish to thank the Community Probation Service Managers and Prison Managers of Rolleston Prison for their willingness to invest in the idea of a driver treatment programme with staff time and resources. I also acknowledge the many colleagues in Psychological Service who have by their continued interest in my progress encouraged me to persevere and complete it; especially Seáneen Copeland and John Harris for their assistance in the presentation of this document. My thanks also to the many men who have participated in the DOT programmes who have made the most of their opportunities and benefited as a consequence.

The Land Transport Safety Authority also contributed financially to my tuition fees and I would like to thank them for this and the opportunity to contribute to the work of road safety on a number of occasions.

Finally, my sincere thanks to my greatest fan, my wife Deirdre, for her support and understanding, and whose constancy has been a tower of strength to me. She has borne so much of my frustration and triumph throughout the duration of this

task and has helped me negotiate my way to the next stages. Thanks also to my children, Samuel, Talya and Kayla, who have been so tolerant of the times when I have been absent in body and/or mind through this process; I wish to express my gratitude to and wonder at the God who has given us such treasures.

"A prudent man considers his way and escapes harm; a foolish man continues and is ensnared" Proverbs:

## List of Tables

<i>Table 1 Attribution-affective Links (adapted from Ward, 1992) .....</i>	<i>42</i>
<i>Table 2 Analysis of Relapse Situations. (Adapted from Marlatt and Gordon, 1985) .....</i>	<i>45</i>
<i>Table 3 Descriptive Statistics for Control and Treatment groups .....</i>	<i>119</i>
<i>Table 4 Cox Proportional Hazard Survival Analysis For Setting (Community vs. Prison) .....</i>	<i>124</i>
<i>Table 5 Basic Statistics for Uni-variate Significance Tests using Repeated Measures MANOVA for Pre to Post Comparisons of Psychometrics for Treatment Group .....</i>	<i>125</i>
<i>Table 6 Results of Univariate MANOVA Tests .....</i>	<i>126</i>
<i>Table 7 Repeated Measures MANOVAs for Psychometric Scales for Treatment and Psychometric Control Groups .....</i>	<i>127</i>
<i>Table 8 Means and Standard Deviations of Treatment and Control Groups Pre and Post Psychometric Measures .....</i>	<i>128</i>

## List of Figures

Figure 1.	Donovan, Marlatt, and Salzberg's (1983) Hypothetical Model of Alcohol and Driving.....	14
Figure 2.	Covert antecedents of a Relapse Situation (Adapted from Marlatt & Gordon, 1985). .....	29
Figure 3.	Marlatt's Cognitive Behavioural Process Model of Relapse (adapted from Marlatt & Gordon 1985).....	31
Figure 4.	Model of Relapse and Treatment Targets (Adapted from Pithers, Marques, Gibat, & Marlatt, 1983).....	34
Figure 5.	Cognitive Behavioural Model of an Aggressive Re-offense (Adapted from Prisdgrove, 1993).....	38
Figure 6.	Specific Intervention Strategies for RP. (Adapted from Marlatt & Gordon 1985). .....	54
Figure 7.	A Model of the Re-offense Process of Recidivism in DWD drivers. ....	82
Figure 8.	DOT Model of Relapse. ....	97
Figure 9.	Cumulative Percent Surviving for Driving While Disqualified Offense. ....	120
Figure 10.	Cumulative Percent Surviving for an Excess Breath Alcohol Offense. ....	120
Figure 11.	Cumulative Percent Surviving for any Criminal Offense. Groups include dropouts. ....	121
Figure 12.	Cumulative Percent Surviving for any Criminal Offense. Excludes dropouts from both groups. ....	121
Figure 13.	Repeated Measures Means for Pre and Post Test of the DOT scale. ....	128
Figure 14.	Means for Treatment Setting by Dot Score Pre and Post Treatment. ...	129

## Chapter 1: The Driving While Disqualified Problem

Driving offenses are the single largest category of offending<sup>1</sup> and challenge judicial and enforcement systems internationally. The reason for the substantial resources invested in monitoring and modifying driving behaviour is the danger that breaches of road rules pose to health. With over 2.6 million vehicles registered to drive on New Zealand's roads and the resulting millions of interactions between them on the roads every day, regulation of driving behaviour is necessary to minimise the risks posed. Even so, in 1996, 515 people died on New Zealand roads giving New Zealand the sixth worst road safety record of all OECD countries. Traffic accidents, or crashes, are the leading cause of death in young adults with even greater numbers being permanently disabled. Among OECD countries, New Zealand crash statistics indicate that it has the fifth worst road toll for drivers aged between 15-24; 27% of the drivers killed and 35% of the drivers injured were from within this age group even though only 15% of the population is aged 15-24 (Ministry of Justice, 1997).

The total social costs<sup>2</sup> of road crashes resulting in death or injury in New Zealand have been estimated at (NZ) \$3.5 billion per year. Excess alcohol and speed are factors thought to contribute 60% of this cost. It is understandable that driving behaviour is affected by alcohol and drug intoxication. There are many studies demonstrating the increase in decision time and the poor quality of driving choices made while intoxicated (Borkenstein, 1975; Cameron, 1979). Similarly, increased speed reduces safety margins, that is requiring greater distance to stop, and faster reaction and decision times. Other factors such as risk-taking, inexperience including a lack of skill, inattention and failing to give way also contribute to crashes.

Attempts to modify problem driving behaviour through detection and prosecution by Police resulted in over 120,000 people being prosecuted in 1996. The most serious offenses, those that pose the greatest risks to road safety, are those related to driving with excess blood alcohol levels and disqualified driving.

---

<sup>1</sup> For this thesis a distinction is made between traffic (including minor vehicle related convictions such as speeding tickets) and criminal (non-traffic criminal convictions such as theft) offending.

<sup>2</sup> Includes social and indirect costs of crashes.

Disqualified driving is a problem in its own right; Bailey (1994) has found that New Zealand disqualified drivers have higher crash rates and involvement in fatal accidents than other drivers. The use of disqualification from driving as a preferred, and often mandatory, sentencing option, in addition to other sentences such as imprisonment, periodic detention or treatment, resulted in over 15,000 drivers losing their drivers license in 1996 (Bakker, 1997). For 20% of these disqualified drivers, the sentences were not sufficient to deter further traffic offending, nor did these sentences prevent further disqualification (Bakker, 1995). Thus, the number of offenders who do not abide by their disqualification is substantial. For example, in 1992 over 9600 individuals were convicted of driving while disqualified (DWD). The majority (90%) was initially disqualified for alcohol related driving (Bailey, 1993a). Approximately, 16% of those who drove while disqualified received additional disqualification of license and were also imprisoned. DWD drivers who were imprisoned accounted for 19% of all imprisoned offenders in the 1992-year (Spier, Norris, & Southey, 1993). At an average cost of \$50,000 per annum such offenders represent a substantial cost to society over and above the other costs associated with road safety. What makes this worse is that imprisonment does not appear to be a deterrent to further DWD offending (Homel, 1994; Martin, Annan, & Forst, 1993; Voas, 1986). Martin et al. found that when first time driving offenders were sentenced to imprisonment their re-offending rates were higher than similar offenders given alternative sentences such as fines or license revocation.

When the offending history of these disqualified drivers is considered, it is apparent that substantial resources are expended in apprehending, prosecuting and punishing these people. Of the 311 disqualified drivers in prison at the time of the 1995 Penal Census, 169 (54%) had at least 6 convictions and 9 (3%) had more than 20 convictions for disqualified driving (Lash, 1996). Earlier research has shown that approximately 88% will have previously been imprisoned (Braybrook & Southey, 1991). Although these imprisoned people had also committed other offenses for which they may have received a prison sentence, the problem posed by these drivers is still substantial, particularly when community-based sentences such as periodic detention, probation supervision and community service are also considered. For example, in 1996 approximately 21% of the almost 7,600 people serving sentences of periodic detention were doing so as a result of a DWD offense (Bakker, 1997). Additionally, while it is clear that most disqualified drivers have a



number of offenses for alcohol-impaired driving, DWD offenses are, for most of these individuals, more numerous and increasingly so through their offending career (Bailey, 1994), strongly suggesting that it is a significant problem in its own right. A significant number of DWD offenses occur without alcohol related convictions indicating that alcohol did not play a role in this type of offending. To treat such offending behaviour through traditional alcohol related treatment programmes would likely be inappropriate and ineffectual.

There have been several theories developed to explain drunk and/or risky driving offending such as, Jessor's problem behaviour theory (Jessor, 1987), where driving offending is just one part of a general risky lifestyle. Another example is Mayer and Treat's personal maladjustment theory (Mayer & Treat, 1977), where the individual is seen to control negative affect through driving. However, such theories have treated all driving offenders as coming from a homogenous population and have focused on a single factor to explain driving offending (e.g., alcohol or driving to reduce tension). Evidence from the literature suggests that sub-groups of driving offenders exist and that explanations of driving offending will need to account for several factors operating simultaneously (Donovan, Marlatt, & Salzborg, 1983).

The driving literature has largely focused on people convicted of driving under the influence, also known as alcohol impaired or drunk driving, and as such relatively little is known about DWD drivers per se. Even in the studies using driving under the influence offenders, there have been inconsistencies in the definition of alcoholism. Differences between studies are compounded when the only treatment available for driving offenders is alcohol related - even though the offender may not have an alcohol problem. Including such offenders in outcome studies means that results are likely to be less clear than including only offenders with alcohol problems. Theories, and resultant treatment programmes, that focus only on alcohol as a causal factor ignore the possible role of other factors such as personality and psychological factors in driving offenses.

Donovan, Marlatt, and Salzborg (1983) reported that, on the basis of a variety of demographic, personality, attitudinal and alcohol measures, five sub-groups of driving offenders could be distinguished. They proposed a cognitive behavioural model based on an inability to appropriately cope with negative affect to account for the most problematic of these offenders. While an advance on previous

models, the Donovan et al. model has not been empirically tested, does not account for the variability within the driving offender population as it focuses almost exclusively on alcohol as related to driving offending, and is not particularly detailed. As with the other models, DWD drivers have scarcely been mentioned despite having been identified as a sub-group (Donovan et al., 1983; Wells-Parker, Cosby, & Landrum, 1986).

The interventions aimed at reducing driving offending have also largely treated driving offenders as a homogenous group. Three principal treatment approaches have been employed. First, deterrence through detection, prosecution and sentencing has failed to demonstrate effectiveness for the chronic disqualified driver. Approximately 20% of disqualified drivers continue to drive despite a variety of sanctions such as imprisonment, and vehicle confiscation. Second, driver education has been aimed at informing the driver about safe driving practices and informing the driver about the effects of alcohol on driving. Outcome studies have, as a whole, failed to demonstrate consistent benefits in terms of both reductions in offending and crashes (Foon, 1988). Third, alcohol treatment by comparison has been found to be effective and to reduce offending by approximately 10% (Wells-Parker, Bangert-Drowns, & Williams, 1995). However, the most rigorous outcome studies of the alcohol approach have reported treatment effect sizes of between 5 and 8 % representing a modest treatment effect.

The failure to distinguish DWD drivers from alcohol related driving offenders might explain the modest treatment effect. For DWD drivers, alcohol may only be a mediating factor in offending; the problem for such offenders is the driving behaviour itself, although this has been largely ignored by the literature. There has been a failure to develop a distinct and appropriate treatment strategy for such offenders. While the literature has considered the effects of disqualification as a sanction, there has been an absence of exploration of the DWD offense process and the nature and treatment needs of such offenders. The literature has identified some characteristics of driving offenders, such as a failure to cope with negative affect, but not in sufficient detail to clearly identify the role of such affect in offending and any associated cognitions in the offending process. These problems compound and result in a significant sub-group of offenders not receiving appropriate treatment. Identifying and separately treating such drivers could increase the impact of both

traditional alcohol related treatments for those with alcohol problems and also DWD drivers if an appropriate treatment could be developed.

This study explores what is known about DWD drivers and records the development and evaluation of an appropriate treatment programme. Specifically it addresses the limitations of the driving literature by focusing upon the sub-group of disqualified drivers, considers the nature of their offense process, and from this develops a treatment strategy that specifically addresses their problematic driving behaviour. Information from psychometric scales and recidivism outcome data is then provided. The results of the treatment programme are compared to similar data collected from no treatment controls to determine treatment efficacy. In addition, the study explores the relationship between psychometric instruments with recidivism to determine whether there is predictive utility in pre to post change measures used with treatment participants.

## Chapter 2: Literature Review

The following chapter reviews the driving literature as it existed at the time of the development of the Driving Offender Treatment (DOT) programme. A review of the literature from that time until the present and how it impacts on the DOT programme will be provided in a later chapter.

### The Aetiology of Driving Offending

A review of the driving literature shows that the predominance of attention in this area has focused on alcohol related driving. The research into license revocation (disqualification) or suspension is largely limited to its value as a deterrent sentence (e.g., Nichols & Ross, 1989; Wells-Parker & Cosby, 1988). The studies that examine DWD in and of itself have been almost non-existent. One reason for this is that DWD may be seen as a minor offense and less likely to result in accidents than drink driving or high risk driving. The New Zealand concern with DWD is reflected in the maximum sentence for DWD (up to 5 years imprisonment); far exceeding that for alcohol related driving offenses (up to 3 months imprisonment). The average prison sentence given for DWD was almost 4 months in 1996 (Bakker, 1997). New Zealand's apparent harshness with DWD drivers and comparative leniency with drunk drivers is somewhat at odds with international standards (Williams, Hagen, & McConnell, 1984).

Characteristics of drinking drivers and high risk drivers should apply to DWD drivers as the majority of DWD drivers begin their traffic offending careers in one of these groups; 90% as drink drivers and 10% as high risk drivers (Bailey, 1993a)<sup>3</sup>. In addition, both of these groups are similar to DWD in that they have high recidivism rates and many of these offenders have driven while their licenses have been revoked (see Beerman, Smith, & Hall, 1988; Homel, 1994). In developing a treatment programme it is important to recognise that different factors may contribute to offending in different drivers and at different times. Effective treatments (arguably) require the identification of the variables that are associated

---

<sup>3</sup> A very small number have never had a license and received disqualifications as a result.

with a particular person's driving offense. In the absence of literature about the DWD offender the existing alcohol driving literature provides the best available source of information about factors that relate to driving offending.

### **Theories of Driving Offending**

Wilson (1996) identified five theories that attempted to explain drink driving and/or high risk driving. Four of these theories were developed to account for driving offending from more general psychological theories of problem behaviours. Specifically, these are Problem Behaviour Theory developed by Jessor (1987), and three developed by Mayer and Treat (1977), Social Maladjustment Theory, Personal Maladjustment Theory and Impulse Control Deficits Theory. Donovan et al. (1983) have developed a further model to explain why some individuals are at high risk of committing further traffic offending and/or being involved in traffic accidents.

#### **Problem Behaviour Theory**

Jessor (1987) developed problem behaviour theory as a psychosocial model incorporating behavioural, personality and environmental factors. A problem behaviour was defined as a behaviour that is outside socially accepted norms or standards of behaviour. Personality and environmental factors contain elements that can inhibit or motivate an individual's behaviour. The interactions of these elements produce differing levels of proneness to engage in problem behaviours. Jessor considers that high risk driving is part of a general adolescent lifestyle pattern characterised by problem behaviours, particularly risk taking behaviour. Such behaviours allow the individual to attain specific goals, such as gaining respect from peers.

The fact that driving offenders tend to be young males, who are over-represented in offending and accident rates, is taken as evidence to support this theory. For example, Chang, Lapham, and Barton (1996) found that 84% of their sample of 5,000 convicted drink drivers were under the age of 40. Wilson (1992) found that young drivers tended to drive more aggressively, were more sensation seeking, used drugs and alcohol more frequently both when driving and otherwise, and had more personal upheaval than older drivers (See also Holubowycz &

McLean, 1995; Little & Clontz, 1994; Vingilis & Adlaf, 1990; West, 1995; Wilson & Jonah, 1985). Swisher (1988) investigated problem-behaviour theory by examining the inter-correlation of risky driving and other high-risk behaviours such as drug and alcohol use, willingness to drink and drive, crime, cheating and willingness to be a passenger for a drinking driver. Swisher reported high correlations between these measures and risky driving providing support for problem behaviour theory. A similar finding of interrelation between problem behaviours was reported by Vingilis and Adlaf (1990) based on a confirmatory factor analysis of 1,256 young drivers.

Gender differences also are evident; traffic offending and crashes appear to be largely male problems (Chang, Lapham, & Barton, 1996; Farrow, 1987; Holubowycz, Kloeden, & McLean, 1994; Williams & Wells, 1993). Bailey (1993b) noted that 90% of drinking drivers involved in fatal crashes in New Zealand from 1991 to 1993 were male. Little and Clontz's (1994) review of the research into underage drinking and driving revealed that young men drink both more frequently, and in greater amounts, than young women.

Further support for this theory comes from Donovan and Marlatt (1982) who reported differences between driving offenders on a wide range of personality, hostility and attitudinal measures. They derived five subtypes of driving-while-intoxicated offenders on the basis of a number of demographic and drinking measures. Two of these groups exhibited high levels of risk-enhancing characteristics. The first group evidenced the highest levels of depression and resentment as well as the lowest levels of assertiveness, emotional adjustment, and perceived control. The highest levels of driving related aggression, competitive speed, sensation seeking, assaultiveness, irritability, and indirect and verbal hostility characterised their second cluster. These authors found that the two subtypes were of lower socio-economic status, were heavier drinkers, and had a higher risk of accident involvement when compared to the remaining clusters. While some support for Jessor's theory is provided by Donovan and Marlatt's study, their work also suggests that other factors may be important.

The idea of an underlying generality of deviance is supported by the above studies but Osgood, Johnston, O'Malley, and Bachman (1988) have reported that theories that treat different deviant behaviours as alternative manifestations of a single general tendency account for some, but not all, of the variance in these

behaviours. They base this view on self-report data that was collected from a representative sample of 19,000 high school seniors who were followed until the age of 22. Data for five deviant behaviours was collected and used to test a variety of causal models. They found a relatively stable general involvement in deviance (heavy alcohol use, marijuana use, use of illicit drugs, dangerous driving, and other criminal behaviour) accounted for virtually all association between different types of deviance. However, the stability of each behaviour could only be accounted for by equally important and stable specific influences. The authors conclude "theories that treat different deviant behaviours as alternative manifestations of a single general tendency can account for some, but far from all, of the meaningful variance" (p. 91).

There is evidence in the literature to support Jessor's theory. Young males in particular have been found to be over-represented in a variety of risky behaviours such as driving, criminal activity, and underage drinking. The inter-correlations between measures of other risky behaviour and risky driving suggest that they are part of what Wilson and Jonah (1988) describe as "a syndrome typified by high-risk behavior and irresponsible attitudes". However, there is also evidence, such as the presence of psychological factors (Donovan & Marlatt, 1982), and specific influences affecting these deviant behaviours (Osgood et al., 1988), which supports the view that problem behaviour theory has not accounted for all the variance involved in the separate behaviours that are included in the theory.

### **Social Maladjustment Theory**

The social maladjustment theory of Mayer and Treat (1977) is similar to Jessor's problem behaviour theory in that problematic driving behaviour is viewed as one component of a more general pattern of antisocial behaviours and attitudes. In addition to the material presented to support Jessor's theory, research that exists to show a relationship between criminal offending and traffic offending, is seen to support this theory. For example, driving offenders have been found to have a history of violent behaviour (Waller, 1985), other serious crimes (Gould & Gould, 1992) and anti-social behaviour such as verbal aggression, alcoholism, hurting friendships or missing appointments (McCord, 1984) when compared to non-offenders.

Gould and Gould (1992) compared first time driving while intoxicated (DWI) offenders with multiple DWI offenders and found that multiple DWI

offenders had significantly more serious crimes, such as burglary, assault, robbery and theft, than the first time DWI offenders. Beerman, Smith, and Hall (1988) found significant differences between driving offenders based on offense history characteristics. Drinking and driving offenders with higher levels of arrests were more likely to be unemployed, have a past criminal record, drive with a suspended or revoked license and refuse a blood alcohol sample (see also McCord, 1984).

There is evidence to support this theory in that traffic offenders often have criminal convictions and evidence anti-social behaviours when compared to non-offenders. However, the same evidence listed in the above section on Jessor's theory found by Donovan and Marlatt (1982) and Osgood et al. (1988), argues against a single general tendency for deviant behaviour.

### **Personal Maladjustment Theory**

Mayer and Treat (1977) also proposed that problematic driving behaviour may arise from emotional stresses experienced by the individual. The individual may manage negative feelings by engaging in high risk driving - thus risky driving is secondary, and a consequence of, emotional stresses in the individual's life. Driving is viewed as a means of reducing such negative affect as tension, frustration, and anxiety and increasing the individual's perception of personal control and self-efficacy, which may be otherwise lacking in their life. The offender may also use other maladaptive coping behaviours such as substance abuse. Snowden and Campbell (1984) reported that problem drink drivers drank to excess for a variety of reasons related to psychological discomfort and problems in social adjustment. These reasons included: boredom, insecurity, social anxiety and tension. Farrow (1987) also reported that DUI offenders were more likely than non-offenders to report driving fast to resolve stress.

Johnson and White (1989) have found that deficits in coping abilities in samples of youth seemed to contribute more to high risk driving behaviour than risk taking motives. Self-reports obtained from questionnaires from over 1,300 participants taken from a representative sample of drivers were used as the data for the study. Predictor variables extracted from the self-reports were divided into four domains: risk taking/impulsive behaviour, negative interpersonal state, stress, and coping use. Dependent variables related to alcohol, marijuana use and driving were



also extracted. Multiple regression analyses found that alcohol use and driving was most strongly associated with coping across age and gender groups. The other predictors, such as risk taking, were found to operate through the mechanism of coping when path analyses were performed. Johnson and White (1989) summarise the findings of their study as "the findings here reinforce the notion that youths who are sensation seekers, risk takers and impulsive in their behaviour will use substances more often to cope with problems or tensions and will more often drive impaired" (p. 328).

Evidence for driving as a means of reducing psychological distress also comes from Donovan and Marlatt's clusters referred to earlier. These include one cluster that exhibited the highest levels of depression and resentment as well as the lowest levels of assertiveness, emotional adjustment, and perceived control. Such characteristics have been linked with risky driving practices such as speeding and other driving violations (but not DWI recidivism) among driving offenders (Donovan, Queisser, Umlauf, & Salzberg, 1986). In a study of 161 offenders they found that those who fitted the profile (based on psychological measures such as driving related attitudes, personality functioning and hostility) had higher rates of risky driving and violations than drivers in other clusters.

### **Impulse Control Deficits Theory**

Impulse control deficits theory, also proposed by Mayer and Treat (1977), is similar to personal maladjustment theory but views problematic behaviour as occurring because individuals are less able to cope with the risk taking impulses they experience while driving, and use driving for sensation seeking and aggressive acting-out behaviour. Donovan, Marlatt, and Salzberg's (1983) review of the literature on driving offending included sensation seeking and impulsivity as traits associated with recidivism. Donovan, Umlauf, and Salzberg (1988) investigated the validation of subtypes among high risk drivers using attitudinal, personality and hostility measures. One of the subtypes that they identified was characterised by impulsivity, sensation-seeking, assaultiveness, expression of hostility toward inanimate objects and verbal hostility. Donovan et al. (1988) considered that their study provided support for the impulse control deficits theory. However, the other

groups they identified were more consistent with the personal maladjustment and coping skills deficits theories.

### **Discussion of Theories**

A major problem with the above models is their reliance on single factor explanations (such as alcohol or single psychological variables) of driving offending rather than attempting to develop more inclusive explanations. Another major problem is that the research indicates the existence of sub groups of drivers but the theories typically treat driving offenders as a homogenous population. For example, while individual offender clusters identified by Donovan and Marlatt may be seen to support the different theories, no theory takes into account all the different clusters – not all offenders are young or drive to reduce tension or are sensation seeking and engage in aggressive acting-out behaviour. Of particular concern are chronic offenders because they pose the greatest threat to safety and are largely undeterred by current interventions (Bailey, 1993a). The characteristics of such chronic recidivists do not fit easily into the theories presented above for example they are often older drivers more entrenched in offending. Wells-Parker, Cosby, and Landrum (1986) who developed a means of classifying DUI offenders using criminal and traffic histories, further support the existence of such chronic recidivists. They identified five sub-groups of offenders using Q-mode factor analysis and discriminant function analysis. Of particular interest were two small chronic offender groups differentiated by the extent of license violations (driving without a license or with a suspended or revoked license) and alcohol related offenses. The latter two groups of chronic offenders were older (most above 40 years of age) and had a substantial number of other offenses including assaults, disturbances and miscellaneous offenses. The overwhelming majority of offenders in these two groups were classified as at high risk of further offending, including alcohol related offenses, and crashes on the basis of Mortimer-Filkins scores<sup>4</sup>.

---

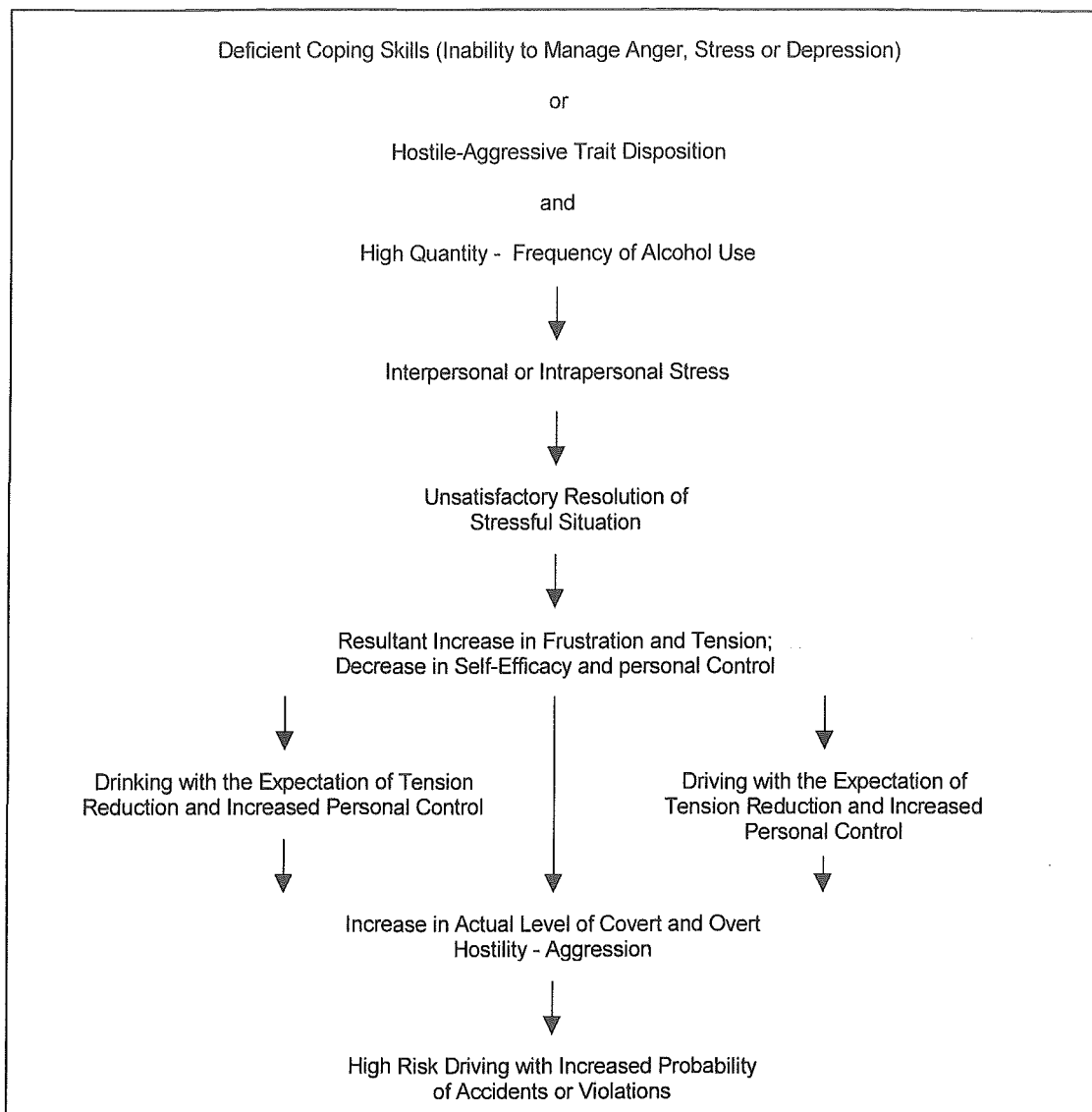
<sup>4</sup> The Mortimer Filkins test measures a number of alcohol related factors including blood alcohol levels, interview information and previous drinking history to arrive at a risk score.

There are also a number of methodological problems with the studies utilised to support the above models. The definition of alcoholism varies across studies which means that many drink driving offenders who may not be alcoholic are classified as such. Another problem is the use of drink drivers in alcohol treatment almost exclusively as research participants. Many such drivers are sentenced to alcohol treatment because it is the only available treatment option and not necessarily because they have an alcohol problem. Theories that focus only on alcohol as a causal factor ignore the possible role of personality and psychological factors in driving offenses.

A major difficulty with these theories is that they have been extrapolated from other areas of psychology on the basis of their fit with aspects of previous research into drink driving and high risk driving. Furthermore, they all focus on a small number of factors or just one at a time, such as the impact of emotional stress on behaviour in Personal Maladjustment Theory.

### **Donovan's High Risk Driving Model**

As noted earlier, in their study, Donovan and Marlatt (1982) found 5 sub-groups of drivers distinguished by scores on a variety of demographic, personality, attitudinal and alcohol measures. They developed a cognitive-behavioural model of high-risk driving on the basis of these results and suggested that drinking and driving both may be expressive of the same psychological states, typically related to tension and anxiety over personal competence and power (Donovan, Marlatt, & Salzberg, 1983). In their model they considered the individual most at risk to be a young man characterised by a high level of underlying hostility and an aggressive disposition who drinks heavily and frequently, and who is deficient in those social skills involved in the appropriate expression of anger and management of stress, frustration or depression. The individual is considered not to possess the requisite skills needed to cope with acute emotional stress, its precipitating situation or the resultant negative affect. This is seen to reduce perceived personal control and self efficacy leading to increased levels of stress, anxiety, hostility, dysphoria and helplessness as well as a decrease in self esteem and the motivation to exert control. Drinking and/or driving are viewed as a means of dealing (albeit inadequately) with negative affect.



*Figure 1.* Donovan, Marlatt, and Salzberg's (1983) Hypothetical Model of Alcohol and Driving.

Donovan et al. (1983) support the view that the motor vehicle provides an alternative, although maladaptive, means of coping with a stressful situation and/or the negative affect arising from it. Because the vehicle may remove the individual from a stressful situation, such as interpersonal conflict, driving will function as a negative reinforcer. In addition, given that the vehicle may provide access to pleasurable events such as social interactions, driving can also act as a positive reinforcer. Driving itself may also be a pleasurable activity and may act as a positive reinforcer. Furthermore, a combination of peer modelling, past experience with both driving, (with or without drinking) and media exposure, may lead to the

expectation that driving and/or drinking are effective ways of coping with negative mood states, and can increase feelings of self efficacy, mastery and control.

While Donovan et al.'s cognitive - behavioural theory does integrate a wider range of behavioural, psychological and environmental factors, associated with driving offenses it also suffers from a number of problems. First, it is essentially a theoretical model and has not been empirically tested. Donovan bases his theory on a literature review of research concerned with psychosocial variables contributing to risk of traffic accidents. However, no data has been reported to support its accuracy. Second the model is not particularly detailed about the factors involved in driving offending; all offenders are considered to have negative affect and to express this in aggressive behaviour. A more comprehensive model that included more details on the specific cognitive and environmental factors and their role in the process that leads to high risk driving would help the development of specific and targeted treatments. Finally, Donovan's model does not address the variability within the driving offender population. Other studies by Donovan and colleagues (Donovan et al., 1988; Donovan, Quisser, Umlauf, & Salzberg, 1986) report that there are subgroups of drivers who have for example, chronic alcohol problems and whose driving risk is a consequence of excessive alcohol intoxication rather than aggressive driving. There are other factors and pathways possible through which high risk driving could occur than those presented in Donovan's model that would cater for the offense processes of these other subgroups.

The problems with the existing theories of driving offending have been confounded even further when DWD offending on its own is considered, as these offenders have been scarcely mentioned in the literature and the relationship of personality, psychological and environmental factors to this problem, are largely unknown. It is also noteworthy that these theories of driving offending have not lead to treatment programmes; in particular there have been no documented treatment programmes specifically for DWD drivers.

### **Intervention Approaches for Driving Offending**

There have been three major types of intervention strategy for driving offending - enforcement, based largely on sanctions that deter further offending, education and alcohol treatment. The results of such interventions will be described

below. The review highlights the relatively poor outcomes of existing interventions and that a major reason for this is likely to have been the tendency to treat all drivers as a homogenous group. If DWD drivers had been excluded from such treatments as alcohol related treatment, the impact of these programmes might have been less equivocal. However, there might be aspects of existing interventions that have relevance for a DWD treatment programme. Because a significant proportion of driving offenders commits subsequent offenses, substantial efforts have gone into intervention strategies.

### Enforcement

The most common form of intervention is to simply increase the legal penalties for DWD. Deterrence theory is seen as playing a key role in road safety strategies and, as proposed by Nicholls and Ross (1989), stipulates that sanctions will be effective in modifying behaviour to the extent that they are perceived to be certain, swift and severe. Thus, a high likelihood of detection, arrest, removal of a license, and imprisonment, in principle, should deter disqualified drivers from continuing to drive. However, research on deterrence theory is equivocal concerning its effectiveness. The three tenets, certainty, swiftness and severity, have not been tested together; most research has focussed on one or at most two. What comparisons have been made suggest that recidivist offenders are less likely to discontinue driving than first offenders (Mann, Vingilis, Gavin, Adlaf, & Anglin, 1991; Vingilis & Mann, 1986). Sanctions such as imprisonment, while severe, do not appear to be more effective than less severe sanctions such as license revocation (See for example, Kinkade, Leone, & Wacker, 1992; Martin, Annan, & Forst, 1993; Voas, 1986).

Of particular concern is research that shows that drivers with revoked licenses, who are disproportionately responsible for crashes, continue to drive while disqualified. Wells-Parker and Cosby (1988) in a telephone survey in Mississippi of 416 drink driving offenders found that 69% admitted to driving while disqualified. While they drove less after the revocation of their license and had a clear understanding of the social and economic consequences of further offending, along with a high expectation of being detected, they still nevertheless drove. More important, the perception of the risk of being apprehended was not correlated with

miles driven; in other words the perception of risk was not related to the actual risk of detection. These offenders drove regardless of their often believing that they were certain (their perception of risk of detection was rated at 100%) to be caught if they drove. This undermines the deterrence tenet that perceived certainty of detection deters further offending.

Further evidence concerning license revocation is provided by Williams, Hagen and McConnell (1984) in their analysis of survey results of drivers who were disqualified. They found that many drove on twenty or more occasions and sixty-five percent of those surveyed admitted to driving while disqualified. Drivers who had received more severe penalties admitted to a higher rate of re-offending; this is contrary to the deterrence tenet of severity of sentence increasing deterrence. The evidence suggests that license revocation appears to work better for those who have fewer offenses; recidivist drivers have higher rates of illegal driving and re-offend more quickly (Bailey, 1993a).

These studies indicate that the ineffectiveness of deterrence is not just the result of the perceived low likelihood of detection - offenders still drove despite believing they were certain to be caught (Wells-Parker & Cosby, 1988). Similarly, Kinkade, Leonie, and Wacker (1992) reviewed a number of studies evaluating the impact of increased penalties for driving while intoxicated. They concluded that while legislative increases in penalties did seem to deter some offenders, they were not particularly effective in the long term because recidivism returned to pre-intervention levels within three months for those with more serious sanctions such as imprisonment.

In summary, the above studies suggest that deterrence does not seem particularly effective for recidivist offenders as two-thirds continue to drive, those with the most severe sentences re-offend at high rates, and finally, any impact seems to be purely a short term phenomenon. This highlights the need for alternative intervention strategies for recidivist DWD drivers. Deterrence and existing legal sanctions are ineffective for the majority of recidivist drivers; by comparison a treatment approach based on psychological principals might be effective for those who remain undeterred.

The failure of legislative responses to deter disqualified drivers from continuing to drive suggests that some form of therapeutic intervention is warranted. Moreover, in developing a treatment programme, the characteristics of driving

offenders reviewed earlier should be kept in mind - effective treatments require the identification of the variables that are associated with a particular person's driving offense.

## **Traditional Driving Treatment Interventions**

### Pre Driving Offender Treatment (DOT) Programme Treatment Literature

The most common form of treatment for driving offenders has involved one or both of driver education and alcohol treatment. Educational approaches to the problem of driving offending provide individuals with information about alcohol and its effect on behaviour without directly attempting to change their drinking patterns or their driving behaviour. These approaches are based on the assumption that if people are better informed about the effects of alcohol on driving they would not drive while intoxicated. Unfortunately, evaluation of education programmes has been generally of a low methodological standard. For example, lack of comparability with regard to driving histories of treatment and control groups (Michelson, 1979), selection bias (Raymond, 1979 cited in Mann, Leigh, Vingilis, & DeGenova, 1983) and differences between groups in blood alcohol levels (Anderson & Merrick, 1988). The literature has also not been able to clearly demonstrate a reduction in driving accidents or traffic convictions as a result of education programmes. While some produce an increase in knowledge and socially appropriate attitudes towards drinking and driving, others do not (Liban, Vingilis, & Blefgen, 1987; Vingilis, 1983). Likewise, some interventions appear to have an effect on recidivism rates while others do not (Mann et al., 1983; Peck, Sadler, & Perrine, 1985).

The rationale behind alcohol treatment is that DWI convictions are often a manifestation of a drinking problem that pervades most facets of an individual's life, for example family relationships, employment, and leisure time. Thus, the DWI conviction should ideally serve as an early warning sign, and society should attempt to re-educate and rehabilitate such individuals (Peck et al., 1985). The clear assumption is that alcohol problems are causative of problem behaviours across many facets of a person's life. There is, however, evidence from tightly controlled research that consumption of alcohol can serve as an excuse for participating in anti-social behaviour rather than being causal (Marlatt & Gordon,



1985; McMillen & Smith, 1989; Wells-Parker, Anderson, McMillen, & Landrum, 1989). For example people who are intoxicated can moderate their behaviour depending upon the social context; expected behaviour at a wedding is different from that at a football stadium and people tend to comply with these expectations despite intoxication. Marlatt and Gordon (1985) review several studies that focussed on the role of expectancy and alcohol use. An example of such a study is that of Lang, Goeckner, Adesso, and Marlatt (1975). Employing a balanced placebo design, the authors administered either, vodka and tonic, or tonic only under one of two instructional sets (expect alcohol or expect no alcohol). Those who believed they had consumed alcohol behaved more aggressively than those who believed they had consumed a nonalcoholic drink, regardless of the actual alcohol content of the drink.

However, alcohol does interfere with driving skills and increases risk of injury; those with alcohol problems are over-represented in accident statistics. Even though alcohol may not be causative of many of the life problems these people suffer it has a clear link with driving risk. Marlatt and Gordon (1985) summarise their findings as follows:

Males show increases in beverage consumption, aggressive responding, sexual arousal, and decreased levels of anxiety when they are led to believe the drinks they consumed contain alcohol, regardless of the actual presence or absence of alcohol in the drinkers . . . . On the other hand, expectancy effects are minimal or absent altogether with such nonsocial behaviors as reaction time, motor coordination, and memory tasks. With these responses, alcohol itself has a deleterious effect, regardless of the expectancy manipulation (pp. 152-154).

The strong link of alcohol and accidents has resulted in numerous alcohol treatment programmes having been developed. The incidence of diagnosed alcohol problems among DWI arrests varies across studies, ranging from approximately 20% to 80% (Donovan et al., 1983). Reviews of the alcohol driving treatment literature have generally been equivocal and have been unable to demonstrate the effectiveness of the intervention programmes (e.g., Donovan, 1989; Foon, 1988). Foon (1988) in her review of 16 studies concluded that, as with the educational programmes, alcohol treatment programmes had not yet provided

definitive evidence of their effectiveness. While some may improve knowledge and social adjustment in some cases, they appear to have no effect on crashes in other cases. Additionally, several of the treatment programmes have been found to have some effect on recidivism, while others have had little or no effect. The research also suggests that multiple offenders seem less affected by treatment than those with fewer violations.

A review of alcohol-treatment outcome studies by Donovan (1989) also found that results have been disappointing. He considered that this was because programmes treat drivers as a homogenous population.

### Limitations of Previous Interventions

One reason for the lack of demonstrated effective treatment may be that the majority of treatment approaches have ignored the different types of driving offender. Research by Wieczorek and Miller (1992) has recognised the need to cater for the different sub-groups of driving offender and suggests that treatment matching might help. The typology they developed using cluster analysis was based on four variables: alcohol dependence severity (based on DSM-III-R criteria), psychiatric severity (measured using the Symptom Checklist 90 - Revised), a bad-driving index (using driving violations) and an index of social instability (based on measures of unemployment, social assistance, divorce or separation, and low income). They found five clusters emerged for the 151 participants differing on the level of alcohol dependence, social instability and driving index. The authors consider that the characteristics of the clusters would result in different treatment strategies. For example, the third cluster had high problem severity in all areas and Wieczorek and Miller consider that a "high-intensity, broad spectrum treatment program, particularly one that attends to the low social stability of this group, is needed". Their second cluster was a high-risk driver group for whom they recommended enhancing driving skills and moderate-intensity alcohol-focused treatment. The authors considered that their typology required replication of their study which would validate the typology and which would allow the development of the different types of treatment regime that the clusters would suggest. In fact, the majority of treatment programmes has not considered such a typology at all and treated drivers as a

homogenous group; estimates of the effectiveness of such treatments are further hampered by methodological weaknesses.

One major problem with alcohol treatment programmes is that those who drive while intoxicated are a minority when compared with those who commit other driving offenses that lead to imprisonment. Among drink-drivers, only a small but significant minority have major alcohol management problems (Vingilis, 1983), yet they still are treated using programmes designed for alcoholics. In addition, alcohol is often only indirectly linked with the offense of disqualified driving. For example, even when offenders are intoxicated, it is the DWD that is the primary illegal action. The lack of effective intervention for this group of drivers may stem not only from a lack of differentiation between driving offense types, but also from targeting the wrong behaviour for change; targeting self-control of driving behaviour may be more effective.

Driver education or treatment for alcohol abuse would reasonably be expected to have very little impact on drivers who experience a strong compulsion to drive. In part this is because the problem may not be with alcohol, but more particularly it may be that these offenders are using driving to cope with problems, albeit in a maladaptive fashion, or because driving in its own right has become overly salient and reinforcing.

Donovan et al.'s (1983) model, described earlier, suggests a lack of coping and social skills in combination with alcohol and personality factors may result in high risk and drink driving. They see the availability of the motor vehicle as a means of providing an alternative, (maladaptive) means of coping with a stressful situation and the negative affect arising from it. Through attributions held and a history of reinforcement, driving as a coping mechanism can become more probable and compulsive (Mirrlees-Black, 1994). This suggests that using social skills, anger management, cognitive restructuring and relapse prevention principles would seem to offer a means of treating repeat disqualified driving.

## Chapter 3 - Relapse Prevention

### Outline

This chapter reviews the relapse prevention literature with emphasis on Marlatt and Gordon's (1985) model. Following a brief outline of the different models of relapse in the addictions literature (e.g., Tucker, Vuchinich, & Gladsjo, 1991), this review will focus specifically upon the Marlatt and Gordon model as the most commonly applied and best developed model of RP. After a description of their RP model and the evidence in support of its components, the application of the model in the area of offending and how it has been reformulated to apply to sex offenders and violent offenders will be presented. A review of outcome studies of the application of RP, with consideration to how effective RP is as an intervention strategy in general, is then provided. The chapter concludes with a discussion of how RP could be applied to DWD drivers. The chapter considers the literature related to RP at the time of the development of the DOT programme and, separately, considers additions to the literature since then. Consideration of the implications of recent literature to changes that could be made to the DOT programme is given in the discussion chapter.

As will be shown in this chapter, the relapse prevention (RP) outcome literature has been somewhat equivocal as to RP's effectiveness when compared to other treatment methods. However, there is reason to believe it would be useful in the treatment of disqualified drivers. There are components of DWD that are similar to the other appetitive behaviours (e.g., reported "need" to drive, short term gain vs. long term loss, and driving as a coping behaviour for negative affect). A treatment approach based on relapse prevention principles has the potential to offer considerable advantage over the largely unsuccessful education and alcohol-abuse treatments that have been tried so far.

### RP Models Prior to the DOT Programme

There have been several models of relapse proposed in the literature. These can be classified into stress-coping models (e.g., Marlatt & Gordon, 1985), motivational-conditioning models (e.g., Stewart, de Wit, & Eikelboom, 1984),

behavioural choice models (Tucker, Vuchinich, & Gladsjo, 1991) and the Cenaps model of Gorski (1990). These models are not necessarily incompatible and the actual treatment techniques used are often different only in the terms that are used rather than in substantive differences. For example, the conditioning models define the importance of environmental cues and operant conditioning that also can be viewed as important in Marlatt's model where attention to such cues would define high-risk situations necessitating coping strategies. A brief description of each of these models is provided below before a more detailed description of the Marlatt and Gordon model, and its modifications proposed for offenders, is described.

Gorski's Cenaps<sup>5</sup> model integrates the AA and Minnesota treatment models where relapse prone substance abusers are taught that dependence is a biopsychosocial disease (Gorski, 1990). Chemical dependence is viewed as producing brain dysfunction (hence the disease label) with the goal of treatment being abstinence. A range of treatment techniques drawn from the medical, psychological and social sciences is employed in intervention. Most of these techniques are cognitive behavioural (e.g., problem solving skills, relationship skills, communication skills) and are found in a wide range of treatment programmes. Gorski's model is very much an eclectic model combining a range of techniques from the relapse literature. However, it is a model that, while popular among addictions counsellors, has not been empirically tested (Chiauzzi, 1991). Its focus however, is different from the RP model originally proposed by Marlatt and Gordon (1985), where RP is contrasted with the AA model rather than being within it. Rather than viewing chemical dependence as a disease with the potential for participants to consider themselves powerless to control use, Marlatt and Gordon described an RP model that highlighted the development of self-regulation skills. A fuller description of Marlatt and Gordon's model is provided below.

Alternatively, relapse has been seen from a behavioural choice perspective where consumption of the substance is viewed as one of many activities available for behavioural allocation. The general goal in this model is to identify the conditions under which substance use emerges as a highly preferred activity from among the available set (Tucker, Vuchinich, & Gladsjo, 1991). Relapse is considered to occur when the individual enters an environmental context in which

---

<sup>5</sup> The meaning of the term Cenaps is not provided in Gorski's article.

the substance is immediately available, and, when an event occurs, that indicates alternative valued activities are not available or are severely constrained. The model suggests that lapses and relapses may be differentiated by the environmental conditions that exist before and when substance use begins.

Another model of relapse that has been proposed is the motivational-conditional model. There are several versions of this model that share the view that substance use is initiated and maintained by the activation of motivational states that direct behaviour towards the substance use. The theories differ in that one holds that substance use avoids withdrawal symptoms while the other holds that the primary motivation is to experience the positive effects of substances (Stewart, de Wit, & Eikelboom, 1984; Tucker, Vuchinich, & Gladsjo, 1991).

These models can be contrasted with the stress-coping model of which Marlatt's is the major version. The versions of this model view the likelihood of substance use increasing when the individual encounters circumstances perceived as stressful or as posing some threat to the person's ability to cope and as such are broader than the above models and can incorporate many of the elements associated with them such as avoidance of withdrawal symptoms. Whether or not substance use occurs under these conditions depends on the perceived degree of stress, expectations of substance use as a coping mechanism and the availability of alternative coping options (Annis & Davis, 1989; Marlatt & Gordon, 1985; Shiffman, 1989a & b). Addictive behaviours are viewed as learnt maladaptive responses to specific problems. Without effective coping skills a person is more likely to return to addictive substances or activities in order to escape from, or cope with the stressful events. The versions of this model differ in the specific mechanisms hypothesised to produce relapse; Marlatt's model utilises the AVE, and the attributions and affect associated with it, as the major mechanism in producing relapse. In contrast, Shiffman (1989a) views substance use as the outcome of interactions over time between stable individual characteristics (e.g., problem severity), changeable background factors (e.g., life stress levels), and transitory precipitating events (e.g., substance use cues). Together with the availability of coping responses, these variables determine an individual's level of relapse proneness. All versions acknowledge the presence of high-risk situations as being more likely to result in threats to coping adaptively.

Versions of the stress-coping model differ in the treatment techniques that are used; modifications have often been made to suit the characteristics of specific substances. For example, Annis (Annis & Davis, 1989) utilises Marlatt's model but incorporates graduated exposure to high-risk situations that are highly individualised for those with alcohol problems. Annis has used Marlatt and Gordon's categories of high-risk situations and combined them with the self-efficacy theory of Bandura to teach clients how to resist temptations to drink. The rationale for Annis' model is that once high-risk situations for drinking are identified, it is possible to teach those with alcohol problems to resist the temptation to drink in these situations. The main treatment technique used is homework exercises of gradually increasing difficulty in exposing the person to situations in which previously they would have used alcohol and practising alternative behaviours. Annis hypothesises that by repeated exposure to these high-risk settings without alcohol use self-efficacy will increase; this in turn will reinforce maintenance of abstinence.

Similarly, Allsop (Allsop, 1990; Allsop & Saunders, 1989) places a greater emphasis on different background and individual factors (e.g., level of dependence, gender, ethnicity) having influence at each stage of relapse and specific interventions are considered relevant at each stage. Allsop proposes four stages involved in the change process: resolution, commitment, action and maintenance; the role of decision making at each stage interacting with a person's resources and coping skills is emphasised. Thus a person who places low value on change is seen to be more likely to succumb to a variety of challenges to their coping abilities. While emphasising the role of decision making Allsop also recognises the importance of high-risk situations (HRSs) and coping skills. Individuals are seen to be committed to, and persist with, a course of action if they want to achieve it and if they have expectancy that they will achieve it. Allsop includes Marlatt's abstinence violation effect (AVE) and the problem of immediate gratification (PIG) in his model and thus only differs in the importance and role of decision making.

Marlatt's model has been the most comprehensively developed and tested of these models, certainly in the area of treating offenders (Wilson, 1992). It has been developed utilising information about addictions over a range of substances and behaviours, and has been used as a treatment strategy in a wider range of addictions and problems than the other models, for example smoking, alcohol misuse, substance abuse, eating disorders, exercise, weight loss, obsessive

compulsive disorder, schizophrenia and depression. In particular, it has been extensively tested, with modifications incorporated by Pithers, Marques, Gibat, and Marlatt (1983), in the area of sex offending and also has been proposed as a model for intervention in violent offending (Prisgrove, 1993). Marlatt (1985b) stated that the RP model could be applied to any compulsive habit pattern in which the individual seeks immediate gratification (the PIG); abstaining from the habit is seen to result in challenges to coping. Therefore, it holds promise as a technique that could be applied to DWD drivers who demonstrate similar characteristics of a compulsive habit pattern. Specifically, driving offenders are reported to experience a "compulsion to drive" (Mirrlees-Black, 1994), drive despite the long-term negative future consequences and have high relapse rates.

The review that follows provides more detailed information about Marlatt's RP model and considers the applications of the Marlatt RP model to a range of addictive behaviours with particular emphasis on offending behaviour. These models are presented before a theoretical critique. A consideration of the supportive evidence for the components of Marlatt's model will be followed by a presentation of the outcome literature of interventions using RP. The major issues canvassed are whether RP works - what research has supported the RP theory and its effectiveness in treatment. In addition has it worked over a wide enough range of problems to give confidence that it could be applied to DWD drivers? Are there components of RP based interventions that have been demonstrated as most important, that is which characteristics of treatment such as length and setting are most important? Of particular concern is whether the intervention strategies employed in RP programmes could be adapted for use with DWD drivers and what such treatment might involve. The presentation of literature will again be divided into material that was extant at the time of the DOT programme development and material that has been published since then.

### **An Overview of Marlatt and Gordon's Relapse Prevention**

In this section I will provide a more detailed description of RP theory as developed by Marlatt and colleagues to provide an understanding of the intervention strategies that have developed from it. It is helpful to consider the three major steps in the relapse process as events and processes that: (a) lead to high-risk



situations that set the scene for the possibility of relapse, (b) lead from high risk situations to a lapse, and (c) facilitate transition from a lapse to a relapse. The various components of RP, such as SICs (seemingly irrelevant choices), HRS (high risk situations) and AVE (abstinence violation effect), have been thought of as part of a chain of linked behaviours. This is an important construct - the relapse process is seen as a cognitive/affective behavioural chain and is used as the framework for treatment.

Relapse Prevention (RP) was developed in response to the high relapse rates for cessation oriented treatment. Workers in the area of addictions, for example, smoking or alcohol abuse, noted that while cessation orientated treatments could produce changes during treatment leading to abstinence, the proportion of clients who would relapse was as high as 80% with one year post-treatment (e.g., Hunt, Barnett, & Branch, 1971). While RP was initially seen as a strategy for maintaining abstinence post-treatment and one component of a treatment programme, it has now been developed as a framework for treatment in its own right (Marshall, Hudson, & Ward, 1992).

The basic assumption of RP is that skills required to produce abstinence may be quite different from skills that are needed to maintain abstinence (Marlatt & Gordon, 1985; Marlatt & George, 1998). Marlatt and colleagues considered that RP can be applied to almost any problem where there is a need to establish and maintain long-term behaviour change. This is done through preventing occurrence of a lapse/relapse and promoting a healthy lifestyle, resistant to relapse-prone forces. Consequently, RP has been applied to a wide range of problems including: substance abuse (smoking, alcohol and drugs); weight loss; treatment of obsessive compulsive disorder (Hiss, Foa, & Kozak, 1994); excessive interpersonal dependency (Overholser & Fine, 1994); and prevention of depression relapse (Clare & Singh, 1994; see Wilson, 1992). Laws (1995) considers that such behaviours share common elements; mainly compulsive habit patterns that produce immediate gratification followed by delayed negative consequences. Second, successful treatment requires abstention from the problem behaviour (e.g., smoking). These elements would suggest that it should be applicable to DWD drivers who also share such characteristics in their offending.

## Antecedents to High Risk Situations

The basic cognitive behavioural model of relapse has changed little from Marlatt's (1985b) original formulation. A client in a state of abstinence<sup>6</sup> at treatment completion has a high sense of self-efficacy and an expectation of a positive outcome. Lapses in abstinence can occur when the client is unable to cope appropriately in situations that pose a high-risk of indulgence in the problem behaviour. Marlatt proposed three pathways to these high-risk situations (HRS). The client can arrive at such situations through unexpected situational factors such as rediscovering a hidden bottle of alcohol, or unexpectedly being offered alcohol by a friend. A second pathway involves an inability to cope with stressors. Such stressors could be from life events, daily hassles or a marked discrepancy between obligation and benefits. These result in the person feeling deprived with a resultant sense of entitlement, and/or cravings, for a particular substance or activity (Ward, 1992). Marlatt considers that an unbalanced lifestyle, in which there is an imbalance between "shoulds" and "wants", can contribute to relapse by producing a chronic sense of deprivation. A sense of deprivation occurs when the client perceives his or her life to be dominated by obligations and duties and as lacking in gratifying activities.

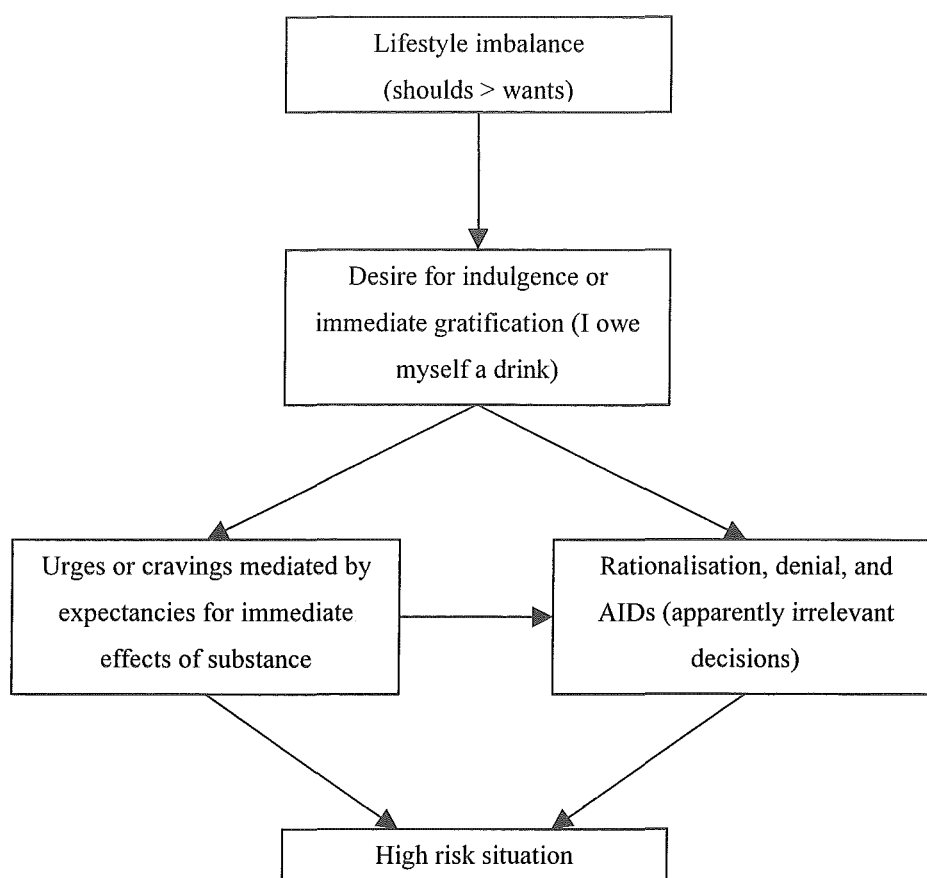
The third pathway occurs through covert means based on choices made as illustrated in Figure 2. Marlatt developed the covert route due to some clients seemingly "setting up" the relapse for the instant gratification that the problem behaviour provided (e.g., the "rush" provided for a substance abuser). This could result from the client making seemingly irrelevant decisions (SIDs) or choices (SICs)<sup>7</sup> that on their own appear unimportant and superficially reasonable, but collectively put a client into high-risk situations. They function to avoid self-criticism and social disapproval and provide an excuse for lapsing. SICs are cognitions that help overcome reasons for, or reduce, restraint, known as cognitive distortions<sup>8</sup>, which make it easier to set up a lapse.

---

<sup>6</sup> Marlatt also includes controlled use in his formulation of RP but for the sake of clarity only the abstinence component will be presented.

<sup>7</sup> These were originally called apparently irrelevant decisions (AIDs).

<sup>8</sup> Cognitive distortions include thoughts related to denial, minimisation and rationalisation.



*Figure 2.* Covert antecedents of a Relapse Situation (Adapted from Marlatt & Gordon, 1985).

The degree of initial commitment to abstinence is an important factor that influences which pathway to a HRS is likely to be taken. Those with a history of successful abstinence would find it difficult to simply resume their addictive behaviour without significant changes to the reasons for abstaining. Mechanisms such as cognitive distortions for such people would be important. However, factors such as lifestyle imbalance can lead to a HRS indirectly through SICs and the covert pathway.

An example of how this process worked could be a person who has quit smoking but due to financial pressures has worked long hours without a break and feels entitled to a little pleasure. On his way home he decides to visit a friend who is a smoker (SIC). When with his friend, he finds himself wanting a cigarette being offered by his friend (HRS) and tells himself that one cigarette won't hurt (cognitive distortion) and despite his having given up, finally has a smoke (lapse). Alternatively, the lack of lifestyle balance could directly result in desire for a

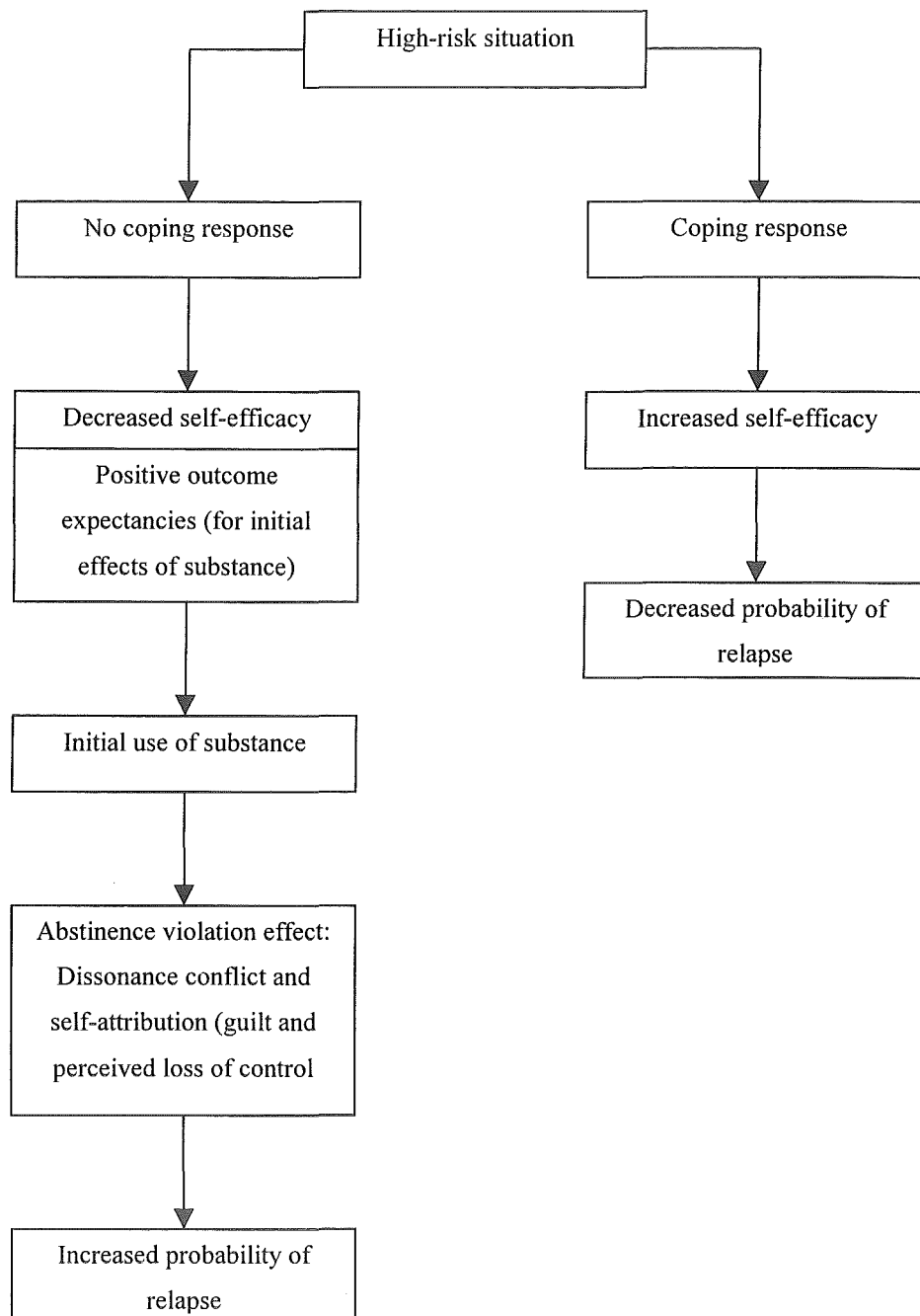
forbidden pleasurable event; in the example above the person could begin to crave cigarettes as a direct consequence of the financial pressures and long hours of work. Feeling the cravings that result and feeling entitled to some pleasure, the person might accept the cigarette if offered by a friend. The third pathway Marlatt proposed was the unexpected entry into a high-risk situation. In the above example the person might not have stress due to financial pressure and long working hours but on his way home bump into his friend who offers him a cigarette, thereby putting him in a HRS for which he is not prepared and he accepts the cigarette and lapses. The process of moving from a HRS to a lapse will be described next.

### **From High Risk to Lapse**

Marlatt defined the high-risk situation as any situation that threatened the individual's sense of control and increased the risk of relapse. Marlatt (1985a) considered that cognitive factors, specifically, self-efficacy, outcome expectancies and attributions of causality, are interactive determinants of relapse. Self-efficacy refers to the individual's perception of their ability to cope with prospective HRSs. Self-efficacy is increased through successful coping experiences. Conversely self-efficacy is reduced by failure experiences which lead to increases in the attraction to the problem behaviour (e.g., the addictive substance). The second cognitive factor, positive outcome expectancies, Marlatt considered mediates this attraction. Outcome expectancies refer to beliefs the person has about what will happen when they engage in the problem behaviour and have both a cognitive (informational) and motivational (incentive) component. Because the outcome expectancy is associated with a desirable outcome, it is seen to provide an incentive, or motivation to engage in the problem behaviour. Marlatt considered that cravings were a subjective state mediated by the incentive properties of positive outcome expectancies.

Positive outcome expectancies were considered to arise through several possible sources including, exposure to conditioned stimuli associated with prior experiences with the problem behaviour (classical conditioning), physical dependency (in the case of substance use), the influence of personal or cultural beliefs about the problem behaviour and situational-environmental factors (Marlatt, 1985a). The third cognitive factor, attributions of causality, was labelled the Abstinence Violation Effect (AVE) by Marlatt who considered that this common

cognitive denominator resulted in most relapsing individuals reporting feelings of guilt, self-blame and/or emotional conflict and agitation in the face of failure to abstain from a range of consummatory behaviours. The AVE will be described in more detail below in the relapse section.



*Figure 3.* Marlatt's Cognitive Behavioural Process Model of Relapse (adapted from Marlatt & Gordon 1985).

Marlatt's cognitive model of relapse is reproduced in Figure 3. The high-risk situation could result in the person using a coping response (e.g., leaving the high-risk situation) with an increase in self-efficacy and a reduced probability of relapse. Conversely the coping response might be ineffective or absent in which case decreased self-efficacy occurs in addition to which there may be positive expectancies about indulgence in the problem behaviour. This problem of immediate gratification, often labelled the "PIG" in treatment, occurs because the reward provided is seen to substantially outweigh the long term negative effects that may or may not occur sometime in the future - this may involve ignoring or filtering out the negative consequences of lapsing (Ward, 1992). One of the difficulties for those who proceed through the covert pathway is the avoidance of awareness and responsibility for decisions that create the HRS. Another process that may assist the transition from a HRS to a lapse and onto a relapse, is that a lack of adaptive coping skills may result in greater reliance on the problem behaviour as a maladaptive but overlearned coping response. In addition the effects of the problem behaviour may intensify the initial positive experience; this could occur through the "rush" that is often experienced immediately following substance use or addictive behaviours.

Together these result in an occasion of the problem behaviour. Given that the abstinence rule has been broken the person then experiences the Abstinence Violation Effect (AVE). Whether the person continues onto a relapse is seen to depend upon the intensity of the AVE, which is reviewed in the next section.

### **From Lapse to Relapse**

Marlatt utilised Weiner's (Weiner, 1974) attribution theory to develop the AVE concept. Attributions of causality are considered to have a number of dimensions, locus of causality (internal vs. external), stability, and controllability. Where attributions are linked with internal or stable factors (e.g., personal faults) as opposed to external or transient factors (e.g., bad luck) they should have a greater impact on subsequent expectations of performance. Attributions of causality are assumed to influence subsequent expectations of future performance capabilities in similar circumstances. Marlatt considered that attributions of causality for past performance are among the primary determinants for self-efficacy judgements for future performance in similar circumstances.

The AVE has two components – an attributional component (internal and uncontrollable such as blaming the self as the cause of the lapse) and a negative emotional response to the attribution (Marlatt uses the construct of cognitive dissonance where the person experiences guilt and conflict). The AVE results in self-deprecation (e.g., "I'm worthless"), failure expectation (e.g., "treatment didn't work"), and erroneous self-attributions (e.g., "I'm a failure") all of which, in combination, are believed to promote relapse. Given that the person may have previously indulged in the problem behaviour as a way of coping with such feelings of failure and guilt it increases the likelihood of them continuing in the problem behaviour once a lapse has occurred. The intensity of the AVE is postulated to increase when attributions about the lapse focus on internal, stable, and global factors that are seen as uncontrollable (e.g., lack of willpower) or decrease if focussed on external, unstable and specific factors (e.g., failure to plan or a momentary lapse in coping with a specific HRS) (Marlatt, 1985b). The perception and interpretation of events, both internal and external, are seen to play a major role in relapse.

### **Application of Marlatt's Model to Sex Offenders**

There is an intuitive appeal to the concept of RP; providing skills to cope with difficult situations following abstinence has considerable face validity. This may account for the proliferation of treatment programmes incorporating RP components and programmes that have used RP as an overarching framework for treatment (Allsop, 1990; Annis, 1990; Carroll, 1996). In the area of offending, the major applications of RP have been with sex offenders - mostly employing Pithers' model (Pithers, Marques, Gibat, & Marlatt, 1983).

The model proposed by Pithers is similar in most aspects to Marlatt's model of relapse, with the exception of the definition of the lapse and what denotes relapse. As with Marlatt's model, in the Pithers model the various components of RP, such as SICs, HRS and AVE, have been thought of as part of a chain of linked behaviours. This is an important construct - the relapse process is seen as a cognitive/affective behavioural chain and is used as the framework for treatment. The various stages of the chain are seen as providing targets for various skills-based coping strategies that form the targets of treatment (see Figure 4).

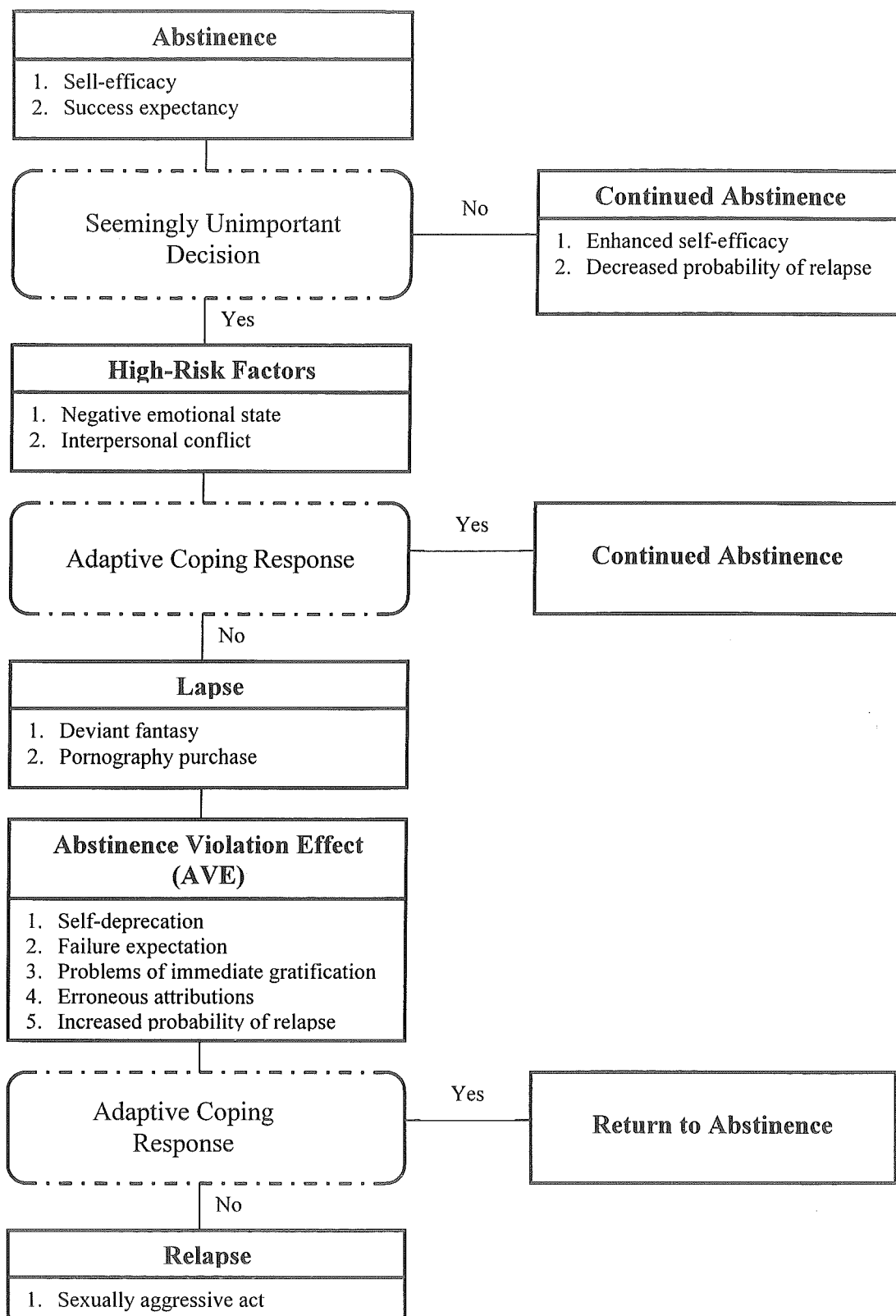


Figure 4. Model of Relapse and Treatment Targets (Adapted from Pithers, Marques, Gibat, & Marlatt, 1983).



In Marlatt's model a lapse involved an instance of the actual problem behaviour (e.g., smoking a cigarette). In the sex offender model the lapse is defined as precursors to offending behaviour, such as deviant fantasies, approach behaviour to potential victims, and loss of control. In the sex offender model the relapse is defined as the commission of the sex offense which contrasts with the definition of a relapse in Marlatt's model where this would be defined as a lapse. The major reason for this modification is that to define the lapse in Marlatt's terms might be seen by offenders to condone offending – “it's just a lapse and can be learnt from” or “I haven't really failed I've just lapsed”. Clearly, this stance is untenable and justifies a modification of Marlatt's model to bring forward the lapse and the relapse in the offense process. This means that considerable attention is paid to the behaviours that might lead to a sex offense but fall short of one.

The offender, following treatment, should be “abstinent” and have an expectation of continuing this post treatment. He may eventually make a SIC, such as “accidentally” passing a children's playground, which places him a step closer to relapse. Successfully recognising the decision as a SIC and using an appropriate coping strategy will increase his self-efficacy and reduce the likelihood of relapse. Failing to cope with the SIC may place him in a high-risk situation that threatens his sense of control. Again, a coping response will reduce the likelihood of relapse but either failing to make a coping response, or making a maladaptive coping response, may result in a lapse occurring (e.g., masturbating to a deviant fantasy). Under these circumstances he may recognise that he is no longer abiding with his “abstinence” rule and experience the AVE. Pithers et al. describe offending taking place exclusively through the covert route and do not include the other pathways that Marlatt's model contains.

How the AVE is managed is considered to determine whether a relapse will occur. Pithers hypothesises that there is conflict between a sex offender's self-image as reformed and the recent experience of a lapse (e.g., sexual fantasies about children). The dissonance is one component of the AVE and may result in the offender viewing himself as a sex offender. The second component of the AVE is the attribution of the cause of the lapse. If the offender views himself as lacking willpower the effect will be negative and the likelihood of relapse increased. Pithers considers that the intensity of the AVE will be increased if the offender focuses on

the positive results of deviant sexual activity and ignores the negative longer term consequences; this is the problem of immediate gratification (PIG). Even at this point he can still use a coping response to reduce the likelihood of offending.

This framework relates the various components of RP together but also allows a clear indication of the adaptive coping responses and where they fit in the behaviour chain. This can be a powerful rubric for treatment and is in stark contrast to the view, held by many offenders, that relapse occurs “out of the blue”. The model implies that control is possible and that offenders become responsible for managing themselves by using the various techniques to disrupt the relapse process represented by the offense chain. The assumption is that earlier steps in the chain are easier to deal with than those more proximal to relapse itself.

### **Application of RP to Violent Offenders**

Prisgrove (1993) describes an RP based treatment for violent offenders. He considers that a major advantage of the RP approach is that it helps the individual avoid situations in which violent offending has proved likely to occur, rather than trying to modify the behaviour itself or “cure” the psychological problems presumed to underlie it. Prisgrove considers that violent behaviour has largely been seen as arising via a social learning process (Bandura, 1973) and hence its treatment has largely focused on cognitive behavioural skills acquisition (e.g., Goldstein, 1988).

The variety of violent behaviours is a major challenge to the development of effective treatments. While most referrals are for individuals who have difficulty managing anger, known as reactive aggression, offenders may also use aggression to obtain some objective such as control over another individual, which is known as instrumental aggression (Zillman, 1979). In addition, violent offenders can be separated along a dimension of readiness to utilise violence. At one end of the continuum are offenders who are under-controlled and readily resort to violence; at the other are passive, or over-controlled, offenders who episodically seem to explode into violence. The strategies for treating these types of aggressive offender are different. Prisgrove (1993) provides a description of an RP programme, based on Pithers' model of sexual offending, that considers the common elements of

treatment for such heterogeneous offenders based on three key assumptions concerning behaviour change.

First, it is not necessary to know exactly how aggressive behaviour developed in the first place in order to change it now. Second, changing aggressive behaviour involves making a commitment and being motivated to change, implementing the change, and long term maintenance of change. Third, the biggest problem in achieving long term success lies in the maintenance of new skills rather than in learning them in the first place. Contrary to the definition of relapse and lapse provided by Pithers for sex offender RP programmes, Prisgrove retains the lapse as aggressive behaviour on a particular occasion. This ignores the fact that such aggressive behaviour is a criminal offense and might be seen by offenders as acceptable because it is "just a lapse".

Prisgrove provides a model of the relapse process for aggressive re-offending and is provided as Figure 5. Initially, the offender has a sense of control through dealing with events in non-aggressive ways or lacks provocation through a HRS. A sequence of events and responses may occur that bring them closer to a HRS in which aggressive behaviour will be hard to resist or automatic. An inappropriate or ineffective coping response may bring about a lapse into aggressive behaviour resulting in a loss of self-efficacy. As with Pithers' view of sex offenders, Prisgrove sees the lapse as producing a complex mixture of thoughts and feelings. The AVE is again seen as comprising dissonance due to a conflict between the person's previous self-image as someone who can cope without aggression and their current experience of acting aggressively. The feelings of disappointment, confusion and/or anger is seen to result in the offender beginning to think of control as a waste of time or that the lapse proves that they are just an aggressive person. The lapse is seen to produce the PIG phenomenon through the power and relief that experiencing aggression brings, to the perpetrator, resulting in a short term "high". In other words the person focuses upon the positive short-term elements of behaving aggressively while ignoring the negative longer-term consequences. To avoid the PIG from leading to a relapse Prisgrove sees the person as requiring significant coping skills to prevent the person taking the next step and abandoning attempts at self-control (relapsing).

Other than the definition of the AVE this model resembles Pithers' model for sex offenders including the role of AIDS (also called SICS or SUDS) and

that only one pathway (the covert pathway) is considered. Prigsrove considers that treatment involves identifying a typical "offense sequence or cycle" with the relevant

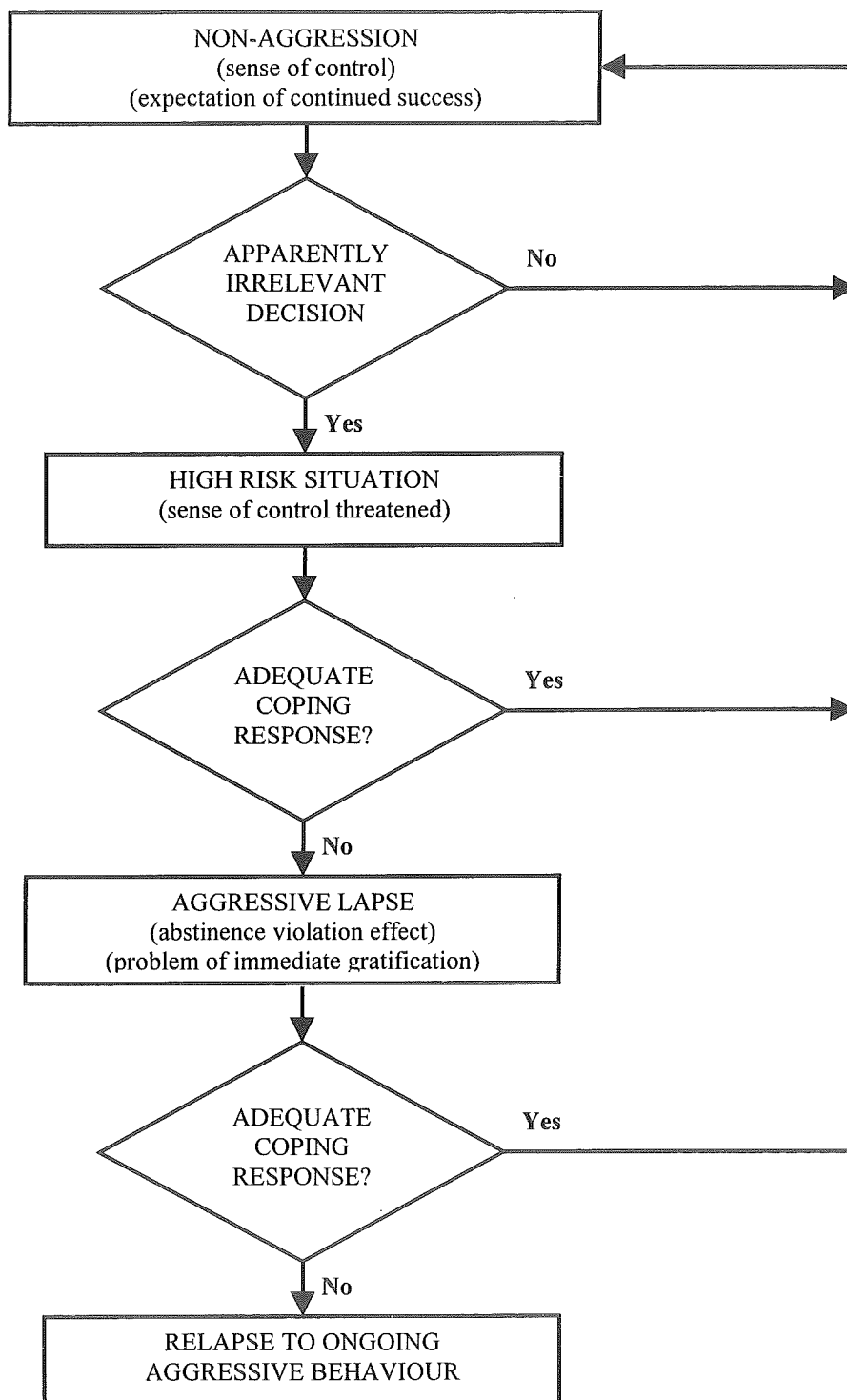


Figure 5. Cognitive Behavioural Model of an Aggressive Re-offense (Adapted from Prigsrove, 1993).

cognitions, affect and behaviour that leads a particular offender from situations of control through high risk situations to behave violently. He separates long-term antecedents such as a family history of violence and unemployment from short-term antecedents such as being oversensitive to criticism or drinking to excess, in his development of offense chains. It is not known if this proposed programme has been adopted and developed. No outcome studies evaluating such a violent offender's RP programme have been reported in the literature.

There are several criticisms that can be made of this adaptation of Marlatt's model and the adaptation proposed by Pithers et al. for sex offenders. The following section considers criticisms of RP models before looking at modifications and more recent developments in the theory of RP. The majority of these criticisms apply to all RP interventions based on Marlatt's model.

### **Critique of RP Models**

Given the scope of Marlatt's model and the substantial theoretical literature that is drawn in to justify its various components it is, perhaps, not surprising that several criticisms about the RP model's components have been made (e.g., Saunders & Allsop, 1987; Ward, 1992).

A major criticism has been the diversity of theories employed by Marlatt to describe the relapse process (e.g., self awareness theory, cognitive dissonance theory, self-efficacy theory, drive theory, attributional theory and classical conditioning). As a consequence, the mechanisms that Marlatt envisaged are involved in the relapse process often conflict or multiple mechanisms are invoked without consideration of their interaction or priority. An example of this is the interaction between the various factors leading to relapse, that is the interaction between the HRS, lapse and SICs. Marlatt highlights the importance of such interactions but does not specify them. There is evidence that these are complex (Saunders & Allsop, 1987, 1989).

Another example of the conflict due to the theoretical diversity employed by Marlatt, is the apparent contradiction in the covert pathway. Marlatt postulated that when people are under stress their cognitive capacities are adversely affected (Marlatt, 1985b). Thinking tends to be simplistic and concrete yet Marlatt expects these individuals can covertly plan and set up relapse. The mechanisms by

which this occurs are not clear. Ward (1992) considered that Marlatt seems to require "unconscious thinking and defence mechanisms that involve complex cognitive processes inaccessible to consciousness" (p. 24). Specifically, it doesn't explain how an individual whose thinking has been negatively affected by stress is able to carefully plan and set up opportunities for further lapses or relapses. Related to this problem Ward also criticised Marlatt for appearing to support the existence of unconscious desires. Specifically, SICs are preceded by a desire for indulgence which either remains unconscious or the connection between the desire, the SICs and the HRS remains unnoticed.

A further problem comes with definitions of relapse and when a lapse becomes a relapse. The issue here stems from determining whether a lapse is a single event of problem behaviour or whether a lapse would be multiple occurrences but still below the previous level of the problem behaviour. Defined in this way the lapse is not dichotomous but dimensional with one occurrence and previous level at opposite ends. This in turn makes a relapse difficult to define; is it when life problems occur or a return to previous levels? This lack of clarity in definition may make it difficult for a person to know when they have moved from a lapse, when certain coping strategies may be appropriate, to a relapse when other strategies might be necessary.

Another limitation of Marlatt's theory is that HRSs are more heterogeneous than Marlatt's definition allows. Ward (1992) stated:

If cognitive distortions are present, then the person may not recognise the HRS as a threat to his/her control. However arguably it would still make sense to speak of the situation constituting a HRS when you take into account his/her addictive behaviour history. There is the reverse situation where a person feels his/her control is threatened but realistically there is little possibility of his/her lapsing. In this situation, they may be excessively anxious and therefore hypervigilant. It would be useful to narrow the definition of a HRS to external situations where the appropriate addictive stimuli are present. Internal factors would then become risk factors or high risk elements that may lead to HRSs by the way of AIDS [SICs] or other mechanisms (p. 26).

Further difficulties exist in Marlatt's use of several mechanisms mediating the transition from HRS to lapse. Specifically, the individual experiences reduction of control, lowered self-efficacy and a sense of helplessness due to not coping. These mechanisms may act independently and need not all be present for a HRS to result in a lapse. For example, lifestyle imbalance might result in negative affect and a decision to use old (addictive) coping strategies resulting in a lapse. In this situation the person might not experience a sense of helplessness or lowered self-efficacy (Ward, 1992).

Ward considers that in a similar way Marlatt also collapses two motivational categories in explaining the shift from a HRS to a lapse, that could act independently. Marlatt argues that stimuli in the HRS produce urges and cravings that push the individual towards indulgence as well as positive outcome expectancies facilitating progress from a HRS to a lapse. Ward argues that both processes can function independently and that combining them as Marlatt does is confusing.

Ward also criticises Marlatt's formulation of the AVE. Marlatt's use of diverse theories again results in competing mechanisms that underlie the AVE and may operate independently and even in competition. An example of this competition is found in Marlatt's argument for a biphasic effect of indulging in the problem behaviour. Initially positive effects become negative effects later on when indulging; however, Marlatt does not specify how the AVE occurs in this setting or when the shift from positive to negative affect occurs in this process. The lack of specificity is seen in that there is little indication of whether the biphasic effect is a biological and/or a psychological process. If, for instance, attributions are involved their role is unclear. Ward also notes that the AVE is unstable and Marlatt does not fully explain this instability. Another problem with the AVE is Marlatt's reliance on an early version of Weiner's attribution theory that results in a narrow definition of attributions that means that causes are defined on an a priori basis (e.g., luck, effort, ability). As a consequence Marlatt broadened the theoretical base to include constructs such as objective self-awareness to account for the AVE phenomena which lead to a somewhat unwieldy construct. The narrowness of the attributional theory used also means that not all possible attributional pathways are included in Marlatt's RP model. Allied to this was the use by Marlatt of attributions as categorical choices between discrete alternative explanations rather than being dimensional in nature.

Ward has reformulated the AVE using Weiner's 1986 attribution theory rather than the 1974 version used by Marlatt. The advantages of doing so were the less conflicting manner in which the components of the AVE combine and the additional pathways that can be catered for. Focusing on the dimensions of locus and controllability Ward developed a number of scenarios reproduced in Table 1. The particular causal attributions made about a lapse that is seen as negative and important reflect different emotional and motivational options. Where guilt is experienced the offender is likely to be able to avoid relapse as the HRS is likely to be viewed as controllable. Where shame and anger are experienced a relapse is more likely but for different reasons. Shame will result from internal controllable attributions ("I should not have accepted that cigarette but I have no willpower") while anger will result from external controllable attributions ("They shouldn't have encouraged me to smoke; they know I am trying to stay clean"). Ward's reformulation of the AVE avoids the need for additional concepts from self-efficacy theory, as efficacy expectations are part of Weiner's 1986 model. Additional theories such as self-awareness theory, cognitive dissonance theory and drive theory are also

Table 1

*Attribution-affective Links (adapted from Ward, 1992)*

Dimensions	Illustrative Cause	Offender's Affect
Internal Controllable	"It's my fault. I have not tried hard enough to keep to my plan. I should not have driven this way home."	Guilt
Internal Uncontrollable	"I have no willpower. I am a disgusting person."	Shame
External Controllable	"This kid is really sexy but I could stop looking at her."	Guilt
External Uncontrollable (nonperson cause)	"It's not my fault I am aroused, there are sexual images everywhere."	Hopelessness
External Uncontrollable (personal cause)	"She is stupid to be here alone. It's her fault I'm aroused."	Anger



unnecessary as Weiner provides a clear link between cognition, emotion and behaviour; failure to cope is seen as entirely a consequence of specific attributions and the emotional states they induce. In this way Ward simplified the formulation of the AVE as well as making it broader, more integrated and parsimonious than Marlatt's version of the AVE.

### **Critique of Pither's and Prisgrove's Models**

The above critique of Marlatt's model of RP applies to any treatment models that derive from it. In addition, Pithers et al.'s (1983) model has concerns in its adaptation for sex offenders. A major problem in Pithers' model is the presence of only one pathway to relapse, the covert pathway, as opposed to lifestyle imbalance and unexpected HRSs having a direct route to relapse as Marlatt has proposed. Arguably this excludes a significant number of potential HRSs from intervention and would undermine treatment efficacy.

Pithers also differs from Marlatt in the positioning of the PIG which Pithers places after the lapse. Such positioning results in an undermining of the AVE which should produce negative affect leading onto relapse rather than competing with the positive outcome expectancies and cravings of the PIG. This has occurred because Pithers has moved the lapse back further in the offense chain to include his definition of relapse. Rather than the PIG mediating progression from a HRS to a lapse as it does in other disorders it acts to mediate transition from a lapse to a relapse. Pithers also fails to acknowledge the separate pathways through which offenders can move from a HRS to a lapse; he lists both negative affect and interpersonal conflict as HRS but does not recognise that a direct pathway to relapse is possible and also an indirect pathway through SICs.

Pithers defines the first instance of a sexual offense as a relapse, rather than a return to pre-treatment levels or increased severity of offending. This seems inconsistent with the RP approach where the first instance of the problem behaviour would be defined as a lapse and depending upon the attributions held might lead back to abstinence rather than relapse. By having the first instance of a lapse as a relapse offenders may experience a strong AVE after the first offense and abandon attempts at abstinence through the coping strategies that have been learned.

Prisgrove's model also suffers from several of the limitations of the Pithers model. Specifically, only the one pathway, the covert pathway, is provided. Prisgrove also places the PIG as occurring at the same time as the AVE - after the lapse rather than a HRS - whereas these are two incompatible mechanisms. Unlike Pithers, Prisgrove defines the lapse in the way that Marlatt does - the first instance of a violent behaviour - and a relapse as return to previous levels of violence.

Despite these criticisms and the theoretical limitations that they imply, RP components have been generally supported by research findings. The following section examines this research. The emphasis, once again, is to determine whether the RP theory is viable particularly in respect to development of a DWD treatment programme based on RP.

### **Research on RP Components**

The following section will be structured around components of the RP theory that have been investigated - relapse precipitants (HRS), self-efficacy, coping strategies and outcome expectancies. One means to determine whether the RP theory can be applied to DWD drivers is by considering how generic the RP model is across a range of problem areas and behaviours; differences between problem areas can then be used to modify RP strategies to make them more applicable to DWD drivers.

Support for the components of Marlatt's theory comes from a number of studies. The following review of studies focuses upon the generalisability of the support for RP theory and the relevant priorities of RP components in determining the intervention components and resources required.

### **Relapse Precipitants**

One of the key elements of support for Marlatt's RP theory has been the finding that HRSs that lead to relapse, negative emotional states, interpersonal conflict, and social pressure, are common across many problem behaviours. Such differences in relapse situations, if reliable, could provide a useful framework for the treatment of problem behaviours. People could be warned of typically difficult situations, and coping responses could be practised. In addition, the relapse situation may also reflect specific learning histories whereby specific cues are more difficult to cope with for some individuals (Shiffman, 1982). Such individual differences, if

prospectively assessed, could lead to tailored treatment procedures. The relative distribution of HRSs found by Cummings, Gordon and Marlatt (1980) across a range of behaviours is shown in Table 2.

Cummings et al. (1980) found that of 311 relapse episodes of people with problems of smoking, drinking, gambling, overeating, and heroin addiction, three major high risk situations were associated with almost 75% of all relapses; 35% with negative emotional states, 16% with interpersonal conflict, and 20% with social pressure. These three categories of relapse were found to be consistent across problem area (smoking, problem drinking, gambling, overeating and heroin addiction) and across cultures (Sandahl, 1984). Similar findings have been reported by other researchers (e.g., Annis, 1990; Brandon, Zelman, & Baker, 1987; Lichtenstein, Antonuccio, & Rainwater, 1977; Shiffman, 1982, 1989b) although the proportion of people in each category of HRS has varied. For example, Shiffman (1982) found negative affect or stress, specifically anger and frustration, was cited as the major trigger for calling a postsmoking-intervention hotline by 52% of callers, 60% of whom found the relapse crises occurring with food or alcohol consumption.

Table 2

*Analysis of Relapse Situations. (Adapted from Marlatt and Gordon, 1985)*

Relapse Situation	Alcoholics (n = 70)	Smokers (n = 64)	Heroin Addicts (n = 129)	Gamblers (n = 19)	Overeaters (n = 29)	Total (n = 311)
Intrapersonal determinants						
Negative emotional states	38%	37%	19%	47%	33%	35%
Negative physical states	3%	2%	9%	-	-	3%
Positive emotional states	-	6%	10%	-	3%	4%
Testing personal control	9%	-	2%	16%	-	5%
Urges and temptations	11%	5%	5%	16%	10%	9%
TOTAL	61%	50%	45%	79%	46%	56%
Interpersonal determinants						
Interpersonal conflict	18%	15%	14%	16%	14%	16%
Social pressure	18%	32%	36%	5%	10%	20%
Positive emotional states	3%	3%	5%	-	28%	8%
TOTAL	39%	50%	55%	21%	52%	44%

An additional 20% reported feelings of depression as the reason for calling. Similar findings have also been found in the area of heroin abuse (Heather, Stallard, & Tebbutt, 1991).

A limitation to Cummings et al.'s study is that it did not provide information on the combination of factors that constitute HRSs. For example, a person might experience more than negative affect proximal to a lapse - they might also experience social pressure and cravings simultaneously. Heather et al. (1991) found that when they measured HRSs multi-dimensionally a more even distribution of HRSs was found with urges and cravings becoming the most frequent category, rather than negative affect (see also Wallace, 1990). Shiffman (1989a) using callers to a postsmoking intervention hotline, found that four categories of relapse situation could be identified using K-means clustering; those involving emotional upset, work, social occasions and relaxation. Of interest was that the work and emotional upset clusters were found to generally involve negative affect. The relaxation cluster was found to involve positive affect often with others present. The results suggested that relapse may be the result of a combination of determinants at any given time (e.g., alcohol, presence of other smokers, and celebration factors occurring simultaneously).

These multiple characteristics within HRSs were supported by a study of smokers reported by Baer and Lichtenstein (1988). They cluster analysed the specific relapse episodes of 176 smokers and found two clusters. They found that stress, negative affect, and alcohol defined an important aspect of relapse and this cluster was generally consistent with previous research. Their second cluster was related to social settings with other smokers in which people reported positive affect. However, they also found considerable variability in the situational characteristics of relapse whereby the characteristics of relapse episodes were not predictable from characteristics of pre-intervention relapse episodes, prior smoking behaviour, stress, nicotine dependence or situation-specific self-efficacy. This meant that their data did not support the concept of a specific pattern of social learning that impacts on relapse episodes suggesting that RP intervention that was tailored to individual clients would not be warranted. Treatment programmes should therefore provide skills that are generalisable across a range of HRSs. This is contrary to Marlatt's view of cue specificity and that specific HRSs should be assessed for individuals and specific

coping strategies provided. Grilo, Shiffman, and Wing (1989) have obtained similar results to those found for smokers among dieters.

The above studies have generally found that the proximal factors of relapse found in HRSs support Marlatt's view that negative affect, social situations and interpersonal conflict are generalisable across problem behaviours. However, studies have suggested that these do not operate in isolation and that other elements such as positive affect, alcohol and cravings can also exist simultaneously in the HRS. The value of coping skills that will be applicable to a wide range of specific situational circumstances is important for treatment intervention.

### **Coping Strategies**

Marlatt's model predicts that people who employ adaptive coping responses in HRSs should avoid a lapse and relapse. Given that many of the HRSs such as negative mood, interpersonal conflict, and social pressure are common to a range of problem behaviours, similar coping strategies for these situations should be effective regardless of the problem behaviour. If Marlatt's model can be extended to the treatment of DWD offending then coping responses for similar HRSs should be effective across a range of problem behaviours. Studies have investigated whether this occurs. Such studies suggest coping strategies are effective in reducing relapse in smoking (Bliss, Garvey, & Heinold, 1989; Shiffman, 1984), alcohol (Miller, Westerberg, Harris, & Tonigan, 1996; O'Farrell, Choquette, Cutter, Brown, & McCourt, 1993; Wanigarate, Wallace, Pullin, Keaney, & Farmer, 1990) and exercise (King & Frederickson, 1984).

The role of coping strategies has been investigated in the prevention of relapse with the number of coping strategies being found to be the best predictor of continued abstinence (Bliss, Garvey, & Heinold, 1989). Shiffman (1984) reported seven behavioural coping responses (relaxing, escape, delay, distracting activity, engaging in physical activity, eating/drinking, engaging in any other activity) that were equally effective in preventing relapse for smokers. Among cognitive coping strategies the use of will power and self-punitive thoughts were less effective than other cognitive responses such as distracting thoughts, intent to delay and other self-talk. Those who employed both a behavioural and a cognitive coping strategy relapsed at a lower rate (23% vs. 30%) than those who employed one or the other.

This contrasts with Bliss et al. who found that using combinations of cognitive and behavioural strategies was not more effective than using cognitive or behavioural strategies on their own. Shiffman concluded that coping responses helped maintain abstinence no matter what type of coping response was used and that it is probably most useful to teach ex-smokers a broad repertoire of coping responses and to identify factors that help overcome inhibitions in the use of such coping responses.

Wanigaratne, Wallace, Pullin, Keaney, and Farmer (1990) considered that social skills treatments aimed at improving drink refusal, appropriate anger expression, and coping with anxiety have shown a modest degree of success in reducing drinking and building social competence. However, these skills appear to decay over time and may benefit from booster sessions (Wanigaratne et al., 1990). Marlatt and Gordon (1985) consider that individual assessment of coping skills deficits is required, as some participants in treatment may already possess some coping skills.

The issue of learning, practising and using coping skills is the focus of treatment programmes employing RP. However, many programmes have not provided sufficient enactive practise time for participants to become fully familiar with the coping skills (e.g., Chaney, Roszell, & Cummings, 1982; O'Farrell et al., 1993). Stevens and Hollis (1989) provided intensive practise of coping skills in small groups. They found a small but significant difference at 1-year post completion compared to a discussion control group and a group receiving no extra rehearsal sessions. Another factor that may modify the effectiveness of coping skills is the presence of cues to the problem behaviour. Abrams, Monti, Pinto, Brown, and Jacobus (1987) found that when relapsers were exposed to smoking cues, their coping responses were less effective in preventing relapse than the responses of non-smokers of equivalent social competence.

These studies suggest that coping strategies are important in preventing relapse across a range of problem behaviours as predicted by Marlatt's theory. The type of coping strategy used does not appear to be critical, (Bliss et al., 1989; Shiffman, 1984) but the number of available coping responses, and the degree of practise in using them (e.g., Stevens & Hollis, 1989), may influence relapse. The issue of practise of coping skills will be considered more thoroughly in the review of treatment programmes below.

## Self-Efficacy

Self-efficacy has been found to be related to relapse. Self-efficacy judgements have significant predictive power in relation to future cigarette use (DiClemente, 1981), marijuana use (Stephens, Wertz, & Roffman, 1993) and, to a lesser extent, alcohol use (Baer, Holt, & Lichtenstein, 1986; McKay, Maisto, & O'Farrell, 1993). Low self-efficacy has been found to predict negative outcomes in drug and alcohol abusers (Burling, Reilly, Moltzen, & Ziff, 1989), smokers (Bliss, Garvey, & Heinhold, 1989; Condiotte & Lichtenstein, 1981) and obesity (Mitchell & Stuart, 1984).

Self-efficacy is situation specific (Bandura, 1977) and studies investigating self-efficacy have generally used Marlatt and Gordon's categories of HRSs (e.g., feeling bored, frustrated or depressed and being with other users) to base their assessments on. Participants report their self-efficacy in terms of confidence at coping in the varying HRSs. As such these judgements pre treatment reflect the person's perceived ability to cope and have generally been found to be poorly related to subsequent relapse. By comparison post treatment self-efficacy ratings have been found to be significantly related. This is not surprising, as part of treatment has been to develop, and practise, coping skills in HRSs. Performance accomplishments (in this case practising coping skills) are considered to be a major influence on self-efficacy judgements (Marlatt, 1985a).

An example of a study supporting Marlatt's model is that of Condiotte and Lichtenstein (1981) who used a self-efficacy questionnaire with 78 smokers pre and post a cessation programme. Participation in the cessation programme increased self-efficacy from pre to post treatment and there was a strong relationship between ratings and treatment outcome; the higher the level of perceived self-efficacy at the completion of treatment, the greater the probability that participants would remain abstinent throughout the follow-up period. Similar findings exist for alcohol and other substances; for example, for alcohol (Rist, Sitharthan & Kavanaugh, 1990; Watzl, 1983) and for opiates (Gossop, Green, Phillips, & Bradley, 1990). There is also some suggestion that treatment participants with moderate self-efficacy ratings have better outcomes than those with the highest self-efficacy, suggesting that "overconfidence" may pose problems (Haaga & Stewart, 1992).

In summary, the self-efficacy construct appears to be related to relapse and to occur across a range of problem behaviours supporting Marlatt's theory. Self-efficacy judgements have been found to reflect treatment gains and have been found to be predictors of subsequent behaviour.

### **Outcome Expectancies**

Marlatt's model suggests that positive outcome expectancies of indulgence in a problem behaviour act to mediate progression from a high risk situation to a lapse. Outcome expectancies are based on the anticipated effects (be they physical, psychological, and/or behavioural) of engaging in a particular behaviour; such anticipated effects may be different to those that actually occur (Marlatt & Gordon, 1985). There are several possible sources of such expectancies, including exposure to conditioned stimuli associated with prior occurrences of the behaviour, physical dependency, the influence of personal and cultural beliefs, and situational - environmental factors.

In a study of relapse among opiate addicts, Chaney, Roszell, and Cummings (1982) found that 16% of the relapse events could be attributed to conditioned withdrawal. Physical dependency has not been found to be a major factor in relapse although it has been found that greater dependence among alcoholics results in more intense cravings (Marlatt & Gordon, 1985). Heather, Rollnick, and Winton (1983) found that physical dependency was unrelated to treatment outcome and relapse among hospitalised alcoholics. In contrast, cultural and personal beliefs are important determinants of outcome expectancies. For alcohol, Brown, Goldman, Inn, and Anderson (1980) found, from a factor analysis of questionnaire responses, six independent expectancy factors. These factors included: alcohol transforms experiences in a positive way, alcohol enhances social and physical pleasure, alcohol increases power and aggression, alcohol increases social assertiveness, alcohol increases sexual performance and reduces tension.

Situational and environmental factors also influence expectancies. Behaviour following drinking will differ depending upon the situation in which it occurs; for example people are expected to behave differently at weddings than sports events although the same amount of alcohol might be imbibed. The presence or absence of others in the drinking situation has also been found to modify the



effects of drinking; solitary drinkers reported primarily physical effects of alcohol while drinkers in a social setting described the psychological and interpersonal effects (Pliner & Cappell, 1974).

The studies supporting outcome expectancies have come from the alcohol abuse field and none have been found in other problem areas. There is therefore only limited evidence to support this component of Marlatt's theory in terms of its applicability to other problem areas.

### **Abstinence Violation Effect**

Several researchers have investigated the AVE across a range of problem behaviours and found mixed results as to the link between the AVE and relapse. Curry, Gordon, and Marlatt (1987), investigated the AVE in smokers. Participants were presented with hypothetical situations in which people might be tempted to smoke and asked to imagine themselves in each situation. They were asked to identify a cause for the outcome and completed rating scales measuring the locus, stability and globality attributional dimensions. Those who had lapsed were asked to complete the attributional scales for their initial smoking episodes. The results indicated that participants who relapsed following a slip reported a significantly larger AVE than those who resumed abstinence. However, the study suffers from using hypothetical situations in that participants were asked to assign attributions to situations that they had no experience in. It is not known how closely their answers would compare to actual lapse situations or possible lapses that they were familiar with. They also did not include the controllability attributional dimension (see Ward, 1992).

Birke, Edelman, and Davis (1990) have investigated the AVE in illicit drug users. A semi-structured interview and an attributional measure were used to examine the attributional style of relapsers and non-relapsers and the HRS that resulted in resumed drug use. They did not find evidence to support the AVE; however, they did not measure specific post-use attributions but rather attributional style and thus did not really measure Marlatt's model of the AVE.

Other studies by Collins and Lapp (1991) with social drinkers and Schoeneman, Hollis, Stevens, Fischer, and Cheek (1988) with smokers have found mixed results. In a review of the AVE literature, Ward (1992) considers that the

mixture of supportive and unsupportive studies is largely a consequence of the flaws in Marlatt's AVE construct noted earlier. As a consequence, measurement of the AVE has been inadequate. Ward, having reformulated the AVE as previously described, measured attributions and emotions of 26 male child molesters at three points (background, lapse and relapse) during descriptions of their most typical offense chain. His results showed that all but one experienced the AVE during their offense chain (18 at relapse, 7 at lapse) and also experienced significant increases in most negative emotions. Interestingly, Ward's results indicated that there might be different types of AVE dependent upon the emotional content at the different points of the offense chain and level of attributions reported.

These findings suggest that the AVE as Marlatt has formulated it, has not been well supported by research but that developments in the definition and measurement of the AVE could result in such empirical support. Of interest would be replications of Ward's study with other problem behaviours.

## **Conclusion**

The studies that have investigated components of Marlatt's theory have found that, generally, relapse occurs as a consequence of common elements (e.g., negative affect, relationship difficulties) across problem areas, although there are specific elements that are unique (e.g., cognitive functioning among alcoholics) to specific problem areas. There are numerous studies that support the components of RP in terms of the consistency of HRSs, the value of coping skills training, the role of efficacy, and, to a lesser extent, the presence of the AVE. Such support has encouraged the development of RP treatment programmes.

The range of problem areas over which these studies have been conducted show that RP has wide applicability and provide support for Marlatt's (1985b) assertion that it can be applied to any compulsive habit pattern in which the individual seeks immediate gratification. Many of the elements found in DWD offending such as negative affect, relationship difficulties, interpersonal conflict, and maladaptive coping (Donovan et al., 1983) also exist in these other problem areas. RP could therefore provide a useful intervention strategy for DWD drivers.

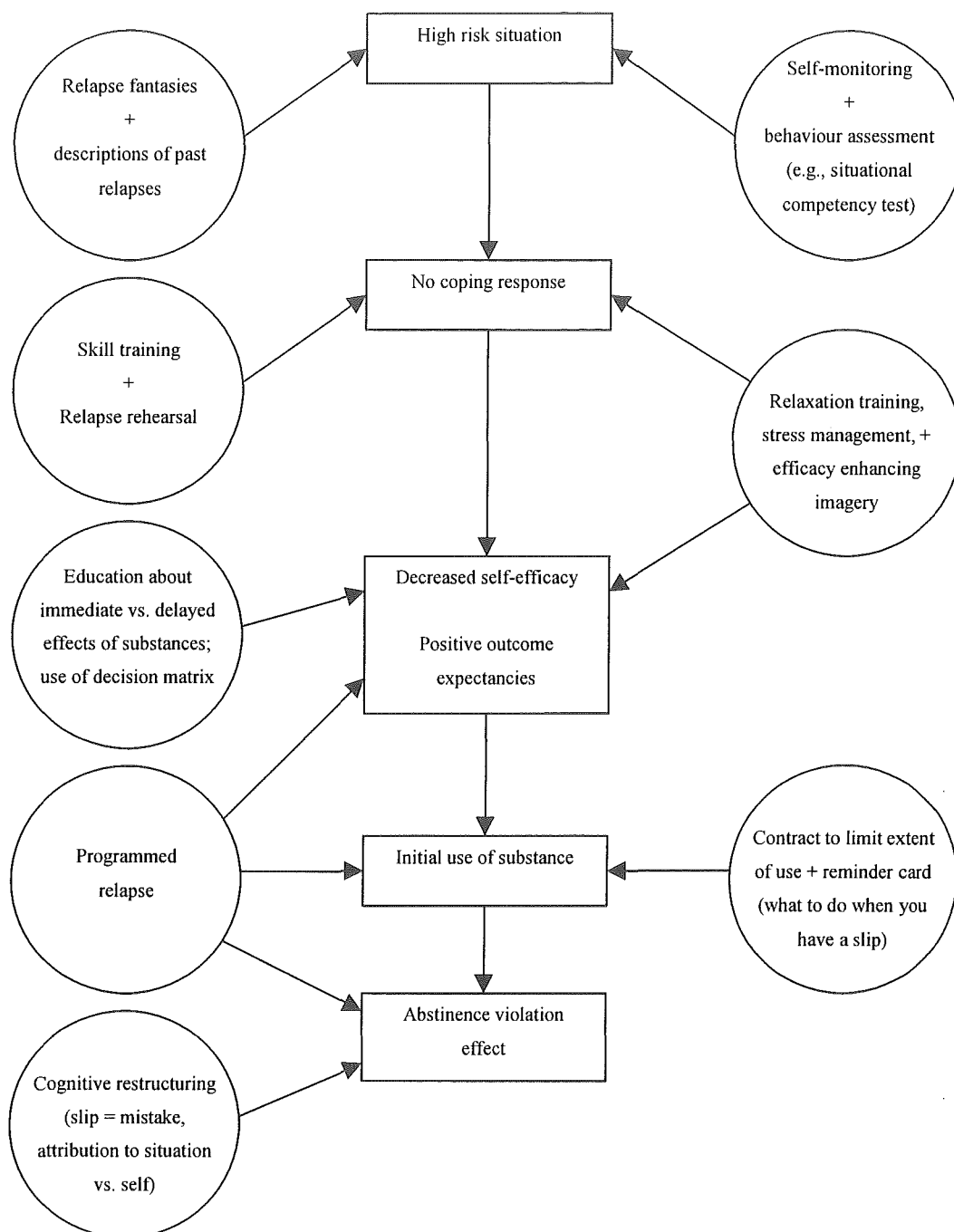
However, the question remains as to how effective RP interventions have been. The following section provides an overview of RP treatment strategies

and then reviews the treatment literature that has employed Marlatt's model of RP in the treatment of a wide range of problem areas. Of particular interest will be its effectiveness in reducing any criminal offending behaviour, such as sex offending, as offenders will be most similar to DWD drivers in terms of personal characteristics, learning styles and lifestyles given the large number of high risk traffic offenders with criminal histories (Bailey, 1993b; Donovan et al., 1983). Also of interest will be what changes have been needed when applying RP to offenders, as these will also have relevance to a treatment programme for DWD drivers.

### **Treatment Using Marlatt's RP Model**

Marlatt's model has been most influential in the development of interventions based on relapse prevention procedures (Carmody, 1990). It emphasises the importance of anticipating and developing strategies for coping with temptations (HRSs) to lapse or relapse so that a high level of self-efficacy can be maintained for warding off such temptations. If a lapse occurs, participants are taught to avoid self-defeating attributions and associated negative emotional states that constitute the AVE. Additional to these specific intervention strategies are global strategies aimed at rebalancing the client's lifestyle and identifying and coping with covert determinants of relapse. These behavioural and cognitive strategies are represented in Figure 6.

Participants are helped to develop skills in self-monitoring characteristics of lifestyle imbalance and HRSs so that remedial action can be taken early in the behaviour chain. Marlatt argues that taking alternative action early in the chain is easier than if the action has to be taken later in the chain when the person is faced with the PIG and reduced self-efficacy. Previous relapses can be used to identify HRSs that have caused problems in the past. Cognitive reframing (Marlatt, 1985b), also known as restructuring, procedures are designed to provide alternative cognitions; to see the habit change process as a learning process, to introduce coping imagery to deal with urges as early warning signs, and to reframe reactions to the initial lapse (restructuring the AVE). Lifestyle rebalancing strategies include relaxation and exercise (referred to as positive addictions) designed to increase overall coping capacity and reduce urges that are often the result of an unbalanced lifestyle (Marlatt and George, 1998).



*Figure 6.* Specific Intervention Strategies for RP. (Adapted from Marlatt & Gordon 1985).

Marlatt and George (1998) have encouraged therapists to select intervention techniques based on a thorough assessment of the individual client's needs and existing strengths. The first step of RP is training the client to identify the chain of events that increase the likelihood of their being in high-risk situations that may trigger relapse. This chain of events can provide discriminative cues that act as

warning signals and reminders to engage in alternative coping skills. They recommend the use of self-monitoring baseline data as a means of identifying the high-risk situations and the chain of events associated with them. The skills training component of RP is seen as being tailored to the individual skill deficits of the client. Possible content areas include assertiveness, stress management, relaxation training, anger management, communication skills, and general social and/or dating skills (Marlatt & George 1998). Problem solving skills are routinely developed as they provide the client with a set of flexible skills that can be generalised across situations and problem areas, reducing the reliance upon often mechanised and rote behavioural skill based training. The methods used to teach such skills are generally action oriented - behaviour rehearsal, role-playing, coaching, and modelling so that the skills are mastered and self-efficacy with respect to using them, increased. Homework exercises to help embed such skills are an integral part of the treatment process. Where it is not possible to practise such skills in real-life settings, imagery can be used to rehearse the relapse with the person imagining engaging in appropriate coping behaviour.

The ability to cope with a lapse is a critical component of the RP model. The fundamental method of intervention after a lapse is to use cognitive restructuring to counter the negative (e.g., "I'm a failure") and affective (e.g., guilt) components of the AVE. Instead of the lapse being seen as an indication of failure and inevitable return to relapse, the person is provided with instructions to "reframe" the lapse as a learning experience that can be avoided or better managed in future. Marlatt and George recommend using techniques such as wallet sized reminder cards with instructions to read and follow in the event of a lapse. Marlatt considers that an unbalanced lifestyle, in which there is an imbalance between "shoulds" and "wants", can contribute to relapse by producing a chronic sense of deprivation. A sense of deprivation occurs when the client perceives his or her life to be dominated by obligations and duties and as lacking in gratifying activities. The client is taught to monitor the level of "shoulds" and "wants" in their life by keeping a daily record of duties, obligations and also indulgences. The client is encouraged to keep a balance, often by introducing "positive addictions", which, while producing some short term discomfort, result in lasting benefits such as exercise or relaxation. Such techniques can also be helpful in coping with urges and cravings.

Additional skills to cope with urges are also provided. One technique is to help the client view urges as passing events; they rise in intensity, reach a peak and then subside. Marlatt (1985b) describes this as "urge surfing" where the client is instructed to imagine the urge as a wave which they are learning to ride. As with any new skill, urge surfing may take some time and practice before the client learns to attain a position of balance rather than being "wiped out". Understanding the role of SICs is also seen as being important in controlling urges. Such "minidecisions" can be controlled by making self-talk explicit and by recognising their true meaning as representing urges. Marlatt and George consider that urges should be viewed as natural occurrences that happen in response to environmental and lifestyle forces, rather than as signs of being a failure and indicators of future relapse via the mechanism of the AVE.

Many treatment programmes employ "booster sessions" following cessation based and RP treatment to monitor and enhance the skills developed during treatment. The specific nature of the frequency, content and scheduling of booster sessions has not received research attention, but in reviewing 26 studies of booster session effectiveness Whisman (1990) concluded, "such sessions were found to be modestly successful" enhancing behaviour change in 58% of the studies.

Given that Marlatt (1985b) stated that the RP model could be applied to any compulsive habit pattern in which the individual seeks immediate gratification the model has been adapted for use with a wide variety of problem behaviours. In the offending area it has been used with sexual and violent offending behaviour. The following section reviews the outcome literature up to the end of the 1993 year, when the DOT programme began, for treatment programmes that have used the RP treatment approach. The remaining literature will be reviewed in a later chapter. The review considers how effective RP has proven, which components of RP have been most effective (e.g., coping skills, cognitive restructuring, relapse rehearsal, and treatment length), and the range of problem areas in which RP has proven successful. These considerations will help determine the applicability and content of a RP programme for DWD drivers.

## RP Outcome Studies

An immediate problem when considering outcome studies is the use of the term “relapse prevention” which has come to refer to any post treatment intervention whether or not it relates to RP as proposed by Marlatt or the other models described earlier. The review focuses on studies that have clearly incorporated components of RP outlined in Marlatt's model of treatment described earlier. The review is organised around the different problem areas that RP has been applied to. While the number of outcome studies may be reasonably substantial, the sample sizes of the studies are generally small, resulting in studies often finding that RP reduces relapse but not to an extent that significant differences are found.

The treatment programmes also frequently modify the RP procedures to include components of RP, or in combination with other procedures, making the unique contribution of RP difficult to assess. A major limitation of the RP outcome literature is the lack of description of the specific programme components and a lack of standardisation as to what constitutes a RP programme. Programmes labelled as RP have included single components such as problem solving (e.g., Curry et al., 1988; Omenn et al., 1988) and also multiple components including problem solving, relationship skills, assertiveness training, lapse rehearsal, cognitive restructuring, decision grids, victim empathy, and stress management (e.g., Allsop, 1990; Marshall, Jones, Ward, Johnston, & Barbaree, 1991). This is partly due to RP being both a post cessation treatment component, and an overarching treatment strategy for cessation. Nevertheless, it makes comparison between outcome studies difficult because it is not clear what is being compared and whether differences are due to RP or other factors. One would expect that the greater the number of skills taught the more likely it would be that the participant would be able to cope with threats to relapse.

A second criticism of the outcome studies reviewed below, is that varying definitions of relapse have been used. Studies have used abstinence as the sole positive definition for outcome (e.g., Curry et al., 1988; Jones & Lanyon, 1981; Marshall & Barbaree, 1988; Supnick & Colletti, 1984) while others have used reduction in use or number of cessation attempts, or reduction in psychometric scores (e.g., Ehlers, Stangier, & Gieler, 1995; Oei & Jackson, 1982; Shiffman et al., 1996) and others still, several definitions and measures (e.g., Hall, Rugg, Tunstall, & Jones, 1988; O'Farrell, Choquette, & Cutter, 1998). The lack of an agreed definition of relapse makes comparison between studies difficult.

A further associated problem with outcome studies has been the lack of agreement over the length of follow-up that is needed. Studies have reported follow-ups of one month or less (e.g., Roffman, Stephens, Simpson, & Whittaker, 1990), six months (e.g., Hall, Tunstall, Ginsberg, Benowitz, & Jones 1987), twelve months (e.g., Davis & Glaros, 1986; Jones & Lanyon, 1981; Oei & Jackson, 1982). Marshall considers that for sex offenders, five years or longer are necessary to adequately test the effectiveness of treatment (Marshall & Barbaree, 1988). Multiple measurement periods of relapse help identify whether there are critical periods at which relapse is more likely yet few studies have provided such analyses. The use of survival analysis in particular provides such relapse profiles. The failure to have longer term follow-ups will reduce the impact that RP programmes are likely to have compared to other types of treatment, as the benefits of RP are likely to be seen only over the longer term (Glasgow & Lichtenstein, 1987).

The failure to use sophisticated statistics such as survival analysis also hampers development of knowledge in the RP area. Simple bi-variate statistics such as chi square or students t-test limit the information about the influence of variables such as time to relapse, gender, and age from being included in the analyses. It is possible that treatment effects may not be the same for all age, gender or ethnic groups and such group differences may be lost in pooled data.

The criticisms raised above should be borne in mind when considering the review below.

## **Substance Abuse**

### Smoking

Smoking cessation programmes are, with drinking cessation programmes, the most common application of RP (Marlatt & George, 1998). The majority of studies that have been done compare RP against a no, or minimal, intervention group. When this is done significant treatment effects are generally found; however, when compared to other behavioural techniques the impact of RP is more difficult to demonstrate. Applications of RP to smoking cessation take two forms; either a post-cessation treatment module or as part of an integrated cessation treatment. So far these approaches have not been directly compared.



Of the smoking outcome studies published before the DOT programme was developed, 13 had reported using RP components that are similar to Marlatt's RP model (Brown, Lichtenstein, McIntyre, & Harrington-Kostur, 1984; Curry, Marlatt, Gordon, & Baer, 1988; Davis, Faust, & Ordentlich, 1984; Davis & Glaros, 1986; Goldstein, Niaura, Follick, & Abrahms, 1989; Gruder et al., 1993; Hall et al., 1984; Killen, Fortmann, Newmann, & Varady, 1990; Killen, Maccoby, & Taylor, 1984; Shiffman, 1984; Stevens & Hollis, 1989; Stevens, Glasgow, Hollis, Lichtenstein, & Vogt, 1993; Supnick & Colletti, 1984). Nine studies reported significant treatment effects (Davis & Glaros, 1986; Davis et al., 1984; Goldstein et al., 1989; Gruder et al., 1993; Hall et al., 1984; Shiffman, 1984; Stevens & Hollis, 1989; Stevens et al., 1993; Supnick & Colletti, 1984) although the abstinence rates post-treatment vary from 13 % (Hall et al., 1984; Stevens & Hollis, 1989) to as low as 3 % (Gruder et al., 1993) depending upon the sample sizes and control groups used. Specifically, when comparisons are made to no treatment controls the difference in abstinence rates is higher than when comparisons are made to alternative treatment control groups. When the sample size is smaller and variance remains the same, the difference between treatment and control conditions needs to be larger in order for the difference to be significant; that is small samples limit statistical power.

When the effectiveness of specific components of RP is considered it is not clear which components are most important. Hall et al. (1984) found significantly higher one-year abstinence rates for an RP component compared with a discussion only group both at initial cessation (80.7% vs. 66.7%) and at one year (45.6% vs. 30.3%). The RP component used focussed on skills training for relapse prevention. Stevens and Hollis (1989) also found a significant treatment effect for RP skills training delivered in a group context following cessation when compared with a discussion control group and no treatment control group. Abstinence rates were 13% higher among smokers with RP treatment than the discussion group (41% vs. 34%).

Davis, Faust, and Ordentlich (1984) used a self-help RP manual based on coping with situations that trigger urges to smoke. The study used a design which included four groups; a group that received quit smoking leaflets, a group that had the leaflets plus the RP maintenance manual, a group with a comprehensive cessation manual, and a group which had both the comprehensive cessation manual and the RP

maintenance manual. The RP manual was intended to help with maintenance post cessation and the group that received it were found to have significantly higher long-term abstinence rates than the group where only cessation leaflets were used. The RP manual group had increased abstinence rates when combined with either smoking cessation leaflets or with a more detailed smoking cessation manual. Abstinence rates were highest for the group that had both the extensive cessation and the RP manuals provided. However, given the limited nature of the intervention the absolute rates of abstinence were small (18% vs. 12%). While the question can be raised as to whether the low abstinence rates for the leaflet only group are larger than a no treatment control group, the important aspect is the higher rates of abstinence for the RP maintenance skills component. One limitation of this study is the lack of rehearsal of skills given that they were learned from self-help manuals; feedback from trained counsellors would have presumably increased the adequacy of skills acquisition.

Gruder et al. (1993) randomly assigned smokers interested in joining a support group who had a non-smoking buddy to one of three conditions: no contact control, discussion and social support groups. All 1,440 participants received self-help RP manuals based on coping skills and were encouraged to watch a daily-televised stop smoking programme. Participants in the discussion and social support groups participated in three group meetings; the social support group participants and buddies received training in support and an overview of RP and how to cope with slips and relapses while the discussion group reviewed the self help manual. Abstinence rates at 2 years follow-up were highest in the social support group (25%), which was significantly higher than the discussion group (22.9%) and both were significantly different from the no-contact control group (18.2%). The social support group significantly enhanced the initial cessation rates of the programme and the authors argue for its value due to the low cost of such treatment and its potential to reach large numbers. However, the groups did not differ in terms of the shape of the survival curves - the differences in survival were due to initial cessation as all groups failed at the same rate post treatment. In other words the RP coping skills included in the manual and covered in group discussion did not add to the maintenance aspect of treatment as was intended. Gruder et al. consider that the degree of RP provided (a brief overview of coping strategies and a leaflet explaining how to cope with slips and relapses) was minimal and did not involve skills rehearsal suggesting that this

was not as clear a test of RP as a test of the social support aspect of intervention. They considered that RP training was too complex to present effectively in one session or passively in writing.

Davis and Glaros (1986) studied the effects of a multi-component RP programme based on problem solving and social skills training aimed at coping with temptations to relapse. Clients in the RP group were provided instruction, modelling, behavioural rehearsal, feedback and coaching of coping behaviours obtained from responses of successful ex-smokers. In addition, all clients were trained in the use of general problem solving skills and those in the experimental group were asked to identify personally relevant HRSs, develop alternative reinforcers to counteract feelings of deprivation, alter their expectancies about the positive effects of smoking, and sign a behavioural contract outlining specific coping responses they would engage in should a relapse occur. They compared RP maintenance with a discussion group and found that maintenance of abstinence was positively related to coping with temptations to smoke. The experimental treatment significantly increased subjects' competence for coping with HRSs. However, coping skills were not maintained during the follow-up period. Davis and Glaros considered that the coping skills training for HRS postponed relapse and diminished the intensity of relapse when it occurred compared to the discussion group.

Goldstein, Niaura, Follick, and Abrahms (1989) compared behavioural skills training, which included RP as a maintenance component, to an educational support condition crossed with fixed versus ad lib schedules of nicotine gum administration in a 2x2 factorial design. Eighty-nine smokers participated in the 10 session manual guided treatment. At 6-month follow-up, a significant effect favouring the behavioural skills training was seen; 36.7% were abstinent versus 17.5%.

Stevens and Hollis (1989) described a RP intervention in which individually tailored skills training was used. They compared skills training with both a discussion group and a no-treatment control group. The RP components consisted of rehearsal of cognitive and behavioural alternatives to smoking and identification of high-risk situations for each participant. The results suggested that the content rather than the number of maintenance sessions was more important and supported the usefulness of Marlatt's RP model in preventing relapse. Stevens and Hollis argued that other studies that failed to find an effect for Marlatt's RP model

had inadequate sample sizes and hence insufficient statistical power to demonstrate effects.

A treatment programme with a large number of participants comparing a one session RP treatment against a no treatment intervention was conducted with 1,119 hospitalised smokers by Stevens et al. (1993). The intervention consisted of a video-tape and an individual counselling session focussing on cessation, high risk situations and coping plans. At both 3 months and 1 year follow-up abstinence rates favoured RP; the rates were 20.5 versus 13.7% and 13.5 versus 9.2% respectively. Given the limited nature of the intervention, the failure to provide skills rehearsal and the lack of maintenance support, the results are not surprising. Stevens et al. argued that the expense of treatment and the limited numbers of smokers that attend such programmes make self-help and minimal treatments such as theirs cost effective despite the modest results.

Another means of reducing cost is to use a group format as opposed to individual treatment. Omenn et al. (1988) compared a 16 hour RP programme which emphasised coping skills with an intensive behavioural skills training programme which also included use of aversive stimuli imagery and stress management components. The presentation of material was substantially didactic for groups or manual based for individuals; actual skills rehearsal did not occur. Also included was a third, control, condition that provided a self-help pamphlet with cessation tips. The results showed similar cessation rates for the behavioural and RP programmes that were indistinguishable from the control condition at one year (25% vs. 24% vs. 23%). However, the group treatments were better than the individual programmes. Participants had been assigned to either individual or group based treatment depending upon their preference. Smokers receiving a group-help format had higher quit rates than those receiving similar materials and strategies in a self-help format. The major reason the authors propose for this difference is that materials that were provided had not been well utilised. This same benefit of group treatment was found for those with a preference for group treatment and for those who had no preference as to format.

Studies that have not found significant treatment effects have also used similar components; for example Brown et al. (1984) compared nicotine fading and an RP component with nicotine fading or RP on its own. The RP condition composed 3 one-hour sessions which covered identifying and developing coping

strategies for HRSs, use of stress reduction activities to replace smoking and relapse rehearsal. No significant differences were found between the three groups.

Brandon et al. (1987) investigated the value of maintenance sessions in reducing relapse. The maintenance groups met and received either coping response training for HRSs and social reinforcement for not smoking or a rapid smoking condition. The study found that both maintenance groups reduced relapse compared to the non-maintenance group but the effects persisted only as long as the maintenance sessions.

A major concern with the studies reviewed above is the limited interventions that have been provided under the rubric of RP. The self-help literature commonly used (e.g., Davis et al., 1984; Curry et al., 1988) as the RP component does not guarantee adherence. The absence of behavioural rehearsal and feedback could be expected to result in participants lacking RP skills and knowledge. This is exacerbated by the complexity of RP concepts and skills that in a self-help situation are likely to be difficult to assimilate. The average number of sessions of those RP interventions that did use a group setting, appear minimal given the complexity of the participant matter and the number of skills to be acquired and therefore may have suffered from the same limitations as the self-help programmes (e.g., Brown et al., 1984; Davis et al., 1984; Gruder et al., 1993). Most programmes had weekly sessions with the longest being 10 sessions. Given the complexity of RP techniques such a limited intervention, while understandable from a cost basis, may not adequately test the intervention. Commenting upon the issue of identifying effective components of RP Lichtenstein and Glasgow (1992) report:

we seem to have finally learned the lesson that minor differences in treatments will not lead to major differences in outcome. This lesson has come at the expense of ...studies [which] have consistently failed to identify any one elusive 'magic bullet' intervention component. (p. 521)

In a meta-analysis of the smoking cessation literature, Baille, Mattick and Webster (1990) failed to find any significant effects for any interventions including RP apart from nicotine gum. They did find however that interventions that provide more contact over a longer period of time produce superior results. Given the minimal RP interventions described in the smoking outcome literature the failure by

Baille et al. to find significant results is not surprising. The smoking outcome studies suggest that a comprehensive treatment programme employing the full range of treatment components with sufficient length to allow for the development of the necessary skills will be needed for a DWD RP programme.

### Alcohol

Seven studies had investigated the effectiveness of RP at preventing relapse in alcohol abusers (Annis, 1990; Chaney, O'Leary, & Marlatt, 1978; Ito, Donovan, & Hall, 1988; Kadden, Cooney, Getter, & Litt, 1989; Oei & Jackson, 1982; O'Farrell, Choquette, Cutter, Brown, & McCourt, 1993; O'Malley et al., 1992). Of these, four produced significant reductions in relapse measures used when compared to a control group (Chaney et al., 1978; Oei & Jackson, 1982; O'Farrell et al., 1993; O'Malley et al., 1992). In addition, a study targeting reductions in drinking, rather than abstinence, is reported by Kivlahan, Coppel, Fromme, Williams and Marlatt (1990), where an RP programme produced significantly lower alcohol use (an average of seven drinks per week), than an Alcohol Information School and a no treatment control group (an average of 16.1 drinks per week), after one year post treatment.

The study by Annis (1990), did not find significant differences between participants randomly assigned to an RP or "traditional counselling" programme at 6 months post treatment. The RP programme consisted of 12 hours of group and individual intervention and additional homework tasks which involved: planning and implementing alternative coping responses in HRSs; increasing alternative activities to drinking; improving interpersonal competency; increasing social interactions and attempting to resolve relationship difficulties. Annis reports an 80% compliance rate with homework tasks. Despite the overall lack of difference between the RP and traditional counselling groups, participants in the RP group with a specific set of HRSs (as opposed to having similar drinking patterns across all situations) were benefited more by RP.

Ito, Donovan, and Hall (1988) compared RP as a maintenance programme against an interpersonal process group for 39 clients for 8 weekly post treatment sessions. No difference in outcomes at post treatment (76.5% abstinence

for RP group vs. 73.3% for the interpersonal group) or six-month follow-up (50% vs. 42.1%) were found.

The study by Kadden et al. (1989) did not compare the RP treatment against a control group but used treatment matching to allocate participants to 26 sessions of an RP programme or an interactional programme consisting of "developing insight and healthier interpersonal functioning by developing a cohesive group willing to engage in self-disclosure and affective expression" (p. 698, Kadden et al., 1989). The RP programme consisted of 96 participants who received 26 weekly 90 minute sessions (38 hours in total) of group intervention. Components included in the RP programme were experiences designed to foster skills acquisition such as problem solving, interpersonal skills, relaxation, coping in HRSs and skills for coping with negative moods. Didactic presentation, behavioural rehearsal and homework exercises were used to establish these skills. There was no significant difference found between the treatment groups overall at six months follow-up. However, the authors found that people higher in a measure of sociopathy (California Psychological Inventory Socialization Scale) did better, defined as number of abstinent days, with cognitive behavioural therapy while patients lower in sociopathy did better in the interactional group. This suggests that those with anti-social tendencies will do better in the structured learning environment provided by cognitive behavioural interventions than in insight and interpersonal interventions.

Oei and Jackson (1982) compared cognitive restructuring with social skills training (assertiveness training) individually and in combination with a supportive therapy control group (discussion of problems raised by the clients themselves). The cognitive restructuring group on its own and with social skills training was significantly more effective at producing long term skills acquisition and reducing consumption of alcohol based on ratings by staff and self reports. These differences were most notable at 6 and 12 month follow-up. This study suggests that the cognitive component of RP may have greater value than the social skills component.

O'Farrell et al. (1993) combined behavioural marital therapy (BMT) with RP to address alcohol problems in 59 heavy drinkers. The RP programme consisted of booster sessions following the BMT treatment that offered a range of interventions provided at a minimum of 2 week intervals post-treatment. The sessions consisted of encouragement to continue the treatment plan, assistance in

resolving marital and other problems still unresolved from therapy and to develop, and behaviourally rehearse, a RP plan. Couples were randomly assigned to receive or not receive the RP sessions over the following year. Questionnaire and interview outcome measures of marital adjustment and drinking were taken before and after treatment and at three monthly intervals thereafter. Those who received RP in addition to BMT had significantly more days abstinent and fewer days drinking and were able to maintain their marital improvements better than those who received BMT alone.

O'Malley et al. (1992) provided coping skills training with RP (problem solving, self-monitoring, establishing lifestyle balance, and role playing coping in HRSs) or a supportive therapy (non-directive encouraging and supporting the client's efforts in maintaining abstinence). In a 2x2 design they also evaluated naltrexone (an opiate antagonist reported by the authors to hold promise as a pharmacological agent for treating alcohol dependence) versus a placebo for 97 alcohol-dependent clients. Manual guided treatment was provided for twelve weeks. There were no significant main effects for coping skills versus supportive therapy; but there were significant interaction effects between naltrexone and therapy condition. The naltrexone -supportive therapy condition produced higher initial abstinence rates (61%) than naltrexone-coping skills (28%). However, significantly fewer drinks per day and fewer drinks per drinking occasion were reported by the naltrexone coping skills group. At six months the naltrexone coping skills group were found to be less likely to relapse. The specific dosage of treatment is not provided in this study; if one assumes a one hour treatment session then the 12 hours of treatment would seem to provide little opportunity to rehearse and role play the coping skills component of treatment. While homework exercises were provided no details of the extent to which these were completed is provided. While offering some support for the value of RP this study did not appear to provide intensive therapy and the description of the treatment milieu leaves the reader without a clear understanding of the treatment provided.

The extent of treatment involved in these programmes was of similar length to the smoking treatment literature of approximately 10 to 15 hours (e.g., Chaney et al., 1978; O'Farrell et al., 1993) which seems minimal in terms of the skills that are required to implement RP and may explain the mixed results of these programmes. The exceptions to this were the studies by Oei and Jackson (48 hours of



social skills training and cognitive restructuring) and Kadden et al. (26 hours) - both of these studies found significant effects in favour of treatment.

The components used in the RP treatments varied across the studies. Generally coping skills have been used (e.g., Chaney et al., 1978; Kadden et al., 1989) or relapse planning (e.g., O'Farrell et al., 1993). Oei and Jackson compared social skills and cognitive restructuring and found that the combination of the two was more effective than either on its own. Annis (1990), described above, used the most comprehensive range of RP components of the alcohol interventions but the limited time available for treatment may have resulted in the failure to find significant effects.

Overall the alcohol studies have found limited support for elements of RP. The limited range of components used and the short duration of treatment programmes would seem to suggest the area has not effectively tested Marlatt's RP model. Despite this a number of programmes have found significant differences against no treatment control groups but the results are not as encouraging when alternative treatments are used for comparison.

### Other Drugs

Studies specifically using Marlatt's RP model, or some of its components, in other substance abuse treatment are relatively few. Research that has been conducted includes: Carroll, Rounsaville and Gawin (1991) (cocaine); McAuliffe, (1990) (opioid); Rawson, Obert, McCann, Smith, and Ling (1990) (cocaine), Roffman, Stephens, Simpson, and Whittaker (1990) (marijuana) and Washton and Stone-Washton (1990) (cocaine). McAuliffe (1990) and Roffman et al. (1990) report significant changes compared to control groups. However, the programmes by Washton and Stone -Washton, and Rawson et al. while producing increases in abstinence, have not been evaluated against control groups.

Rawson et al. (1990) has developed an intensive treatment programme for cocaine users over 100 hours in length for 6 months followed by weekly meetings for the following 6 months. The programme combines RP components with other treatment material such as family educational groups where topics included drug use and the brain, drug use and AIDS, relationships and addiction and types of treatment. The RP group was complimented by individual sessions that covered material such

as leisure activities, time management, following a relapse plan, coping with emotions, drug using friends, lifestyle change, relapse analysis, cognitive distortions and relapse, and cognitive reframing of lapse/relapse to avoid the AVE. An evaluation of this programme had been conducted when it was piloted with the treatment group having significantly fewer participants returning to cocaine use (13%) compared to a no treatment control group (47%); the subject numbers were 30 in each group.

Carroll et al. (1991) provided a 12 hour individual RP programme for cocaine users. The RP components used in the programme were instruction in recognising HRSs and developing new coping responses in these situations. Urge control strategies were also provided. The programme had a strong psycho-educational focus presented through the therapeutic relationship. In a study that randomly assigned 42 participants to RP or interpersonal psychotherapy (IPT), RP was found to improve abstinence, but not significantly (43% abstinent vs. 19%). However, significant interaction effects were found for those individuals who had more severe cocaine use. Those who received RP were significantly more likely to achieve at least 3 weeks continuous abstinence than similar users who received IPT (54% vs. 9%). The low sample size in this study seems to be a reason for failure to find significant main effects despite a reasonable percentage difference of 24% - this represents a difference of 5 individuals between the groups.

McAuliffe (1990) employed a randomised assignment to either group based RP or to a control condition in which participants were referred to other treatment agencies or provided with crisis counselling. One-hundred and sixty-eight participants were volunteers, who had completed detoxification, were assessed before inclusion in the study and again 12 months later. The RP components of the programme consisted of 26 group sessions (90 minutes each) focusing on craving, HRSs, alternative coping strategies, drug-using friends, stress management, increasing leisure activities and relationship issues. In addition, a self-help group supporting and fostering positive change was run in conjunction with the RP group. The results showed that 34% of the treatment group and 20% of the control group were abstinent after six months and 30% versus 15% were abstinent after 12 months. These differences were significant.

Roffman et al. (1990) employed RP in the treatment of marijuana users. Twenty hours of treatment were provided over 12 weeks with participants

receiving instruction in analysing antecedents to their use of marijuana. Discussions of craving and patterns of use helped identify HRSs. Skills to counteract negative cognitions and lapses were reframed using self-talk exercises. Relapse plans were developed to provide coping strategies for HRSs. In addition relaxation training and homework exercises to produce lifestyle change were also incorporated in the programme. Roffman compared this RP programme for 45 participants, to a control group of 52 participants provided with a social support procedure. The results indicated that the RP procedure reduced the number of days of cannabis use, the weekly frequency of use and the percent of the groups totally abstinent (36% vs. 25%). This provides robust support for the RP model both reducing use and increasing abstinence when compared to a control group. The size of the experimental and control groups was large compared to other studies (e.g., Carroll et al., 1991) and added power to the data analysis.

Washton and Stone-Washton (1990) employed an intensive and substantial RP programme to treat cocaine abusers. Their programme included 3 group sessions per week for up to 6 months followed by six months of weekly support meetings; individual sessions were also available. The RP components in the programme were strategies for avoiding lapses (identifying cues, avoiding users, avoiding HRSs, discussing cravings, handling slips) as well as topics covering relapse (relapse patterns, antecedents to relapse, desire to test control, sexual problems, relapse behaviours, handling relapses). The programme was reported to have abstinence rates of 31% percent after 6 months; however, a systematic evaluation against a control group has not been conducted. Compared to the value of the interpersonal psychotherapy control group used in the Carroll et al. (1991) study, 19%, the results of this study are better.

The other drug research has generally used more intensive and extensive RP treatments; the length of time and the components included in these programmes are greater than for the smoking and alcohol area. The number of studies that found significant benefits for RP is also greater. Comparisons between studies is somewhat hampered by different definitions of relapse - such as amount of use within a given period and/or percent absolute abstainers (e.g., Rawson et al., 1990; Roffman et al., 1990). Nevertheless, even with such diverse measures the results have generally been more favourable than those in the other problem areas.

## Non-Substance Outcome Studies

The variety of non-substance problem behaviours that have been postulated as being appropriate to employ RP within, includes a wide variety such as depression, exercise, weight loss, schizophrenia and sex offending (Wilson, 1992). Many of these had not been reported as being either employed or evaluated in the literature before 1994. The following section reviews the findings for outcome studies where these have been evaluated.

### Exercise

Marlatt's RP model has been utilised in four studies of exercise behaviour (Belisle, Roskies, & Levesque, 1987; King & Frederiksen, 1984; Marcus & Stanton, 1993; Martin et al., 1984). Of the four studies two found significant increases in both exercise programme attendance and maintenance (Belisle et al., 1987; King & Frederiksen, 1984) whereas Martin et al. (1984) and Marcus and Stanton (1993), did not. Unfortunately, all four studies had methodological flaws. Marcus and Stanton conducted follow-ups only on those who stayed on the programme and not on drop-outs; King and Frederiksen provided RP training in a single session, Belisle et al. (1987) used non-random assignment of participants to treatment conditions, and Martin et al. confounded treatment groups with leaders (not all groups were exposed to all leaders and therefore treatment effects might have been due to differences in the skill of the leaders rather than the intervention). Martin et al. and Marcus and Stanton, used lapse rehearsal based on participants ceasing exercise for a period of 10 days, thus breaking the acquisition of the skill of exercise behaviour while it was still forming. This may have resulted in increasing relapse rather than reducing it. This differs from the usual situation where a repetitious (unwanted) behaviour is already well practised and the relapse rehearsal is designed to strengthen the coping strategies to avoid repetition of the unwanted behaviour. Acquiring a positive skill and then introducing a break may require a different form of lapse rehearsal strategy.

The most robust of these studies was that of Marcus and Stanton, who used random assignment to either an RP treatment group or a group provided with a reinforcement schedule (e.g., an attendance lottery employed to promote attendance) found to increase programme attendance in other studies (e.g., Martin & Dubbert,

1982) and a control group that received only the exercise component. The programme was a longer intervention than that employed in previous studies and included a two-month follow-up assessment. One hundred and twenty female participants attended three 30-minute sessions per week for 18 weeks. The RP and reinforcement interventions were conducted once a week at the end of the last session lasting approximately 20 minutes (total time 6 hours). The RP topics covered included HRSs, the importance of lifestyle balance, a lapse rehearsal and its aftermath, effective coping strategies for HRSs, and development of an RP plan for when the programme was completed. Attendance at exercise sessions and corroborated self-report information were used to measure compliance. At the conclusion of the programme 72% had stopped attending; defined as not attending at least two-thirds of the sessions. At the half way point of the programme (9 weeks) significantly higher attendance rates for the RP condition were found (76% vs. 63% for control). This effect did not last for the whole programme where the differences between RP, reinforcement and control were not significant (33% vs. 28% vs. 24%) for those who continued to exercise.

Marcus and Stanton considered that the participants who took part in the study, being over weight and sedentary, might have accounted for the high attrition rate as other studies had shown that overweight status is related to poor exercise adherence. A further possibility that might have reduced compliance with the programme was the recommendation that participants use videotapes or local aerobic classes following completion of the programme; participants did not appear to adopt these programmes. Given that aerobic dance was the type of exercise used during the programme the failure to adopt a similar form of exercise might have meant that more readily available alternative exercise forms, such as walking or jogging which were used in the other research studies, were not used.

In general the RP programmes tested for adherence to exercise have provided limited support for RP as a maintenance component. The length of these programmes has been short in terms of the RP components being less than 10 hours. Given the complexity of the RP principles that have been used, such a limited exposure may explain the inconsistent findings. In addition, the type of exercise and other methodological inconsistencies between studies might explain the different results.

## Schizophrenia

Schizophrenia is a psychiatric disorder characterised by chronic relapse. Even on medication, relapse rates have been found to be as high as 35% within a year (Hogarty, Anderson, & Reiss, 1986). A major theory of relapse in schizophrenia postulates that a biological vulnerability to stress under certain circumstances will express itself as an episode of psychosis (Liberman & Evans, 1985). The likelihood of relapse occurring after initial prodromal symptoms, depends upon the interaction of such things as the magnitude and duration of the stressor(s), the individual's perception of the stressor, their ability to control and regulate dysphoric affects, their coping skills, the presence of social supports and the efficacy of psychiatric intervention (taking medication). This lack of coping skills and vulnerability to stress has resulted in interventions that have sought to equip sufferers of schizophrenia and their families with skills to identify and intervene early following development of symptoms. While there are differences from Marlatt's model of relapse (e.g., the AVE and PIG are not included in the schizophrenia model), identifying HRSs and developing coping skills for enhanced affect regulation, social interactions and managing stress are similar. The effectiveness of these components of RP in reducing relapse is therefore of interest.

Five studies have been conducted comparing family interventions involving coping skills treatment and medication with medication only groups (Falloon, Boyd, & McGill, 1982; Goldstein, Rodnick, Evans, May, & Steinberg, 1978; Hogarty, et al., 1986; Leff, Kuipers, Berkowitz, Eberlein-Fries, & Sturgeon, 1982; Tarrier, Barrowclough, & Porceddu, 1988). All five found treatment effects that favoured the family interventions ranging from 20% (Hogarty et al.) to 40% (Goldstein et al.)<sup>9</sup>. The range of coping skills included varied between studies but included education about schizophrenia (the vulnerability stress model, rationale for treatments, recommendations for coping with psychotic symptoms), communications skills training and problem solving training (managing day to day hassles, stressful life events and generalised problem solving).

The length of time involved in the interventions was not specified for any of the studies except in terms of sessions; these ranged from weekly for a year

---

<sup>9</sup> The Leff et al. study, while displaying large differences between groups had too few subjects to demonstrate significance.

with biweekly for a second year (Hogarty et al.) to six sessions (Goldstein et al.). Given the smaller difference in results for Hogarty et al. (20%) compared with Goldstein et al. (40%) the additional treatment input may not have been necessary.

The value of coping skills in reducing relapse in schizophrenia sufferers appears to be well supported by the literature, even when provided over relatively short intervention periods. The coping skills employed have largely been social skills training, symptom management and problem solving.

### **Other Interventions Including Offender Treatment**

One study investigating RP has been conducted for depression (Berlin, 1985) and four for weight loss maintenance (Abrams & Follick, 1983; Perri et al., 1988; Perri, McAdoo, Spevak, & Newlin, 1984; Perri, Shapiro, Ludwig, Twentyman, & McAdoo, 1984; Sternberg, 1985). Berlin randomly assigned 22 female participants to either a cognitive behavioural therapy utilising structured pleasant events or to a specifically designed RP programme. The RP programme focussed on reducing self-criticism as a means of reducing depression and included the identification of HRSs and the development of strategies to cope with these situations. The RP intervention was found to be as effective as a "standard cognitive behavioral therapy" at modifying measures of depression and self-esteem.

Abrams and Follick (1983) and Perri et al. (1984, 1988), compared maintenance strategies based on RP following weight loss programmes based on behavioural principles of self-monitoring, stimulus control and self-reinforcement. Maintenance that included RP components such as problem solving, programmed relapse and social support, was found to be more effective than control groups (involving non-specific discussion of factors the group members thought were relevant to weight loss) at maintaining weight loss.

Sternberg (1985), specifically compared RP with a standard behavioural condition that consisted of record keeping, stimulus control and assertiveness training. The RP condition consisted of changing thoughts, identifying and developing coping strategies for HRSs, achieving life-style balance, AIDs, understanding lapses, the AVE and relapses. Both groups received 18 hours of interventions spread over 9 weeks. Both groups lost 10 pounds on average during

treatment but more RP participants continued to lose weight posttreatment (41% vs. 22%) and maintained this (27% vs. 14%) compared to the behavioural treatment.

Perri, et al. (1984), examined the effects of RP and found that, at 15 and 21 month follow-up, RP had significantly enhanced the maintenance of weight loss. The RP (n = 30) and standard behavioural groups (n = 26) were randomly assigned and received the same 14 sessions of behavioural weight loss treatment consisting of self-monitoring, stimulus control, self-reinforcement, cognitive modification and exercise management. Following this, they received six biweekly booster sessions of either RP (comprising group support and problem solving training) or review of the behavioural components. The RP group was also able to have weekly ongoing telephone contact with a therapist for support and guidance for a year following treatment. The authors commented that the costs of therapist time associated with the telephone contact and the modest amount of weight loss maintained tempered the positive findings.

The specific amount of time these studies devoted to RP was still relatively short, below 20 hours, and the components varied from the maintenance component of RP comprising relatively few elements (such as problem solving) through to comprehensive programmes. The results suggest that RP has been effective in weight loss maintenance. The relative efficacy of components has not been well established due to differences in the methodologies employed and differences in follow-up length and reporting of results.

### Sex Offender Treatment with RP

There were at least four treatment programmes for sex offenders with RP components that had reported outcomes by 1993 (Gordon & Porporino, 1991; Marques, Day, Nelson, & Miner, 1988; Marshall & Barbaree, 1988; Pithers, Martin, & Cumming, 1989). All four report significant treatment effects. The programmes vary in the extent of RP utilised with Marques et al. and Pithers et al. making the greatest use of RP both during treatment and as a maintenance strategy. The Marques et al. study utilised a random assignment to treatment or control conditions and reported an 8% recidivism rate for treated participants, 20% for untreated volunteers and 21% for untreated nonvolunteers. This study is the most robust of the sex offender treatment outcome studies but the follow-up time however was on average



just over 1 year and the numbers involved were also relatively small (approximately 40 in each group). The Pithers et al. outcome study reported a 3% recidivism rate for child sex offenders after 6 years release in the community. This compares with baserates of re-offending of over 20%. The rapists that were included in the study did not have recidivism outcomes significantly different from baserates.

The Marques et al. and Pithers et al. programmes also contain substantial RP components as described earlier under the heading of RP models applied to offenders. The effectiveness of these programmes, given their reliance on a range of RP based intervention strategies, supports the view that comprehensive RP based treatments can reduce recidivism among those who molest children at least.

The length of these programmes is also substantial with treatment lasting for more than a 100 hours in both programmes and includes additional post release intervention lasting, if necessary to the completion of the offender's parole (Pithers, 1991). These programmes are therefore substantially longer than any other RP programmes described here apart from those for drug abusers. Given the complexity of the RP concepts provided, the unravelling of offense chains, skill rehearsal, and cognitive restructuring, that are part of these programmes and the social and other costs involved in relapse, such length seems advisable.

### **Discussion of Outcome Studies**

The outcome studies cited above provide evidence that RP is an effective treatment across a range of substances (smoking, alcohol and other substances) and in non-substance problem behaviours (exercise, schizophrenia, depression, weight loss, sexual offending). Of these studies 31 out of 42 (74%) have found significant benefits for RP. Studies that have not reported significant results have often compared RP against another intervention (e.g., Davis & Glaros, 1986; Ito et al., 1988; Omenn et al., 1988). However, there is considerable variation across both successful and unsuccessful treatments in terms of the length of treatment and the RP components compared. When the length of treatment is considered, the findings of Baille et al. (1990) that increasing length of treatment is associated with greater treatment effects for smoking, also seems true for other RP interventions; treatments with longer treatment more often have found treatment effects than shorter ones. For example, the exercise RP programmes had 10 hours or less of

intervention with 2 out of 4 studies not finding significant results whereas other substance interventions involved significantly longer programmes (over 30 hours) and 2 out of 3 were significantly more effective. Given that many of these behaviours have been well established and rewarded, bringing about change is likely to require substantial intervention.

The number of components used in treatment programmes also seems to be important. While it is clear that programme length will be associated with the number of components, those interventions that have included more comprehensive programmes have been more effective. The range of problem behaviours has been sufficient to support Marlatt's contention that RP can be applied to any compulsive habit pattern in which the individual seeks immediate gratification. It therefore suggests that DWD offending might also be a target for RP treatment.

### **Issues related to applying RP for DWD Offending**

The following section considers what is known about RP and what is known about treating criminals, that would impact on an RP treatment programme for DWD drivers. The areas that will be considered are the model of RP that would be appropriate for DWD drivers, the components of such a programme and its length. Following this will be a consideration of the treatment literature for offending that provides an indication of issues that are specific to treating those who commit criminal offenses and that would need to be included in a treatment programme for DWD drivers.

#### RP Issues

One issue in the application of Marlatt's model has been the emphasis on relapse occurring through the covert pathway; seemingly irrelevant decisions (SIDs) are considered to set up high-risk situations. The person's sense of control over their restrained behaviour is threatened with the major HRSs considered to involve negative emotional states. Donovan's model of driving offending described earlier also viewed the precipitants of offending to be largely negative and due to a failure to cope. Yet the other pathways in Marlatt's model (unexpected situations and directly due to lifestyle imbalance) are also likely to challenge the ability of offenders to comply with disqualification. For example, a disqualified driver might

be unexpectedly confronted with the opportunity to drive when a friend turns up in a new car and offers to allow him to take it for a drive. Alternatively, a disqualified driver might become bored due to lifestyle imbalance and decide to go for a drive as a means of alleviating the boredom; in such a case cognitions are not covert but overt.

Given the outcome literature and the impact of multiple components being generally superior to more limited applications of RP, a novel treatment programme should contain the full range of components to ensure that RP is appropriate in the area. If this is found to occur then further refinement of programme components could occur. The range of treatment components should initially include: an overview of RP; explication of the offense process for individual participants; cognitive restructuring; skills development such as problem solving, anger management and communication skills; and development of individual relapse prevention plans identifying HRSs and appropriate coping responses. Rather than having RP as an addition to some other form of cessation based treatment, the offense process for driving offenders could be used as the framework for intervention. This allows for the participants to understand their offending as a process following discrete steps, or behaviours (cognitive as well as physical), that were linked together and led to the offense. A more detailed description and rationale for the specific components of the treatment programme is presented in a later chapter.

The length of treatment supported by the RP outcome literature is greater than 15 hours; studies above this length have generally found significant effects while those below this have been less frequently successful. However, many of the successful treatments have used some other means of achieving cessation and have used RP as an additional, maintenance component. The most successful of the substance abuse programmes have had treatment lengths of over 40 hours and some higher than 100 hours (e.g., O'Farrell et al., 1993). While shorter treatment has an impact on availability for those who pay for treatment, in the case of those who commit crime the costs associated with imprisonment and corrections systems oversight make a strong case for longer interventions being cost effective. The Baille et al. (1990) meta-analysis found increasing effectiveness of treatment with increasing length. The number of RP components and the requirement to provide time for rehearsal would suggest a longer treatment programme is needed.

There are also issues related to treating those who commit crime that impinge on the development of a treatment programme for DWD drivers. These are outlined below.

### Issues Related to the Treatment of Offenders

There have been several meta-analyses of the treatment literature with relatively consistent findings (e.g., Andrews, et al., 1990; Lipsey, 1992). Treatment is effective in reducing recidivism, although the overall average effect size is about a 10% reduction in recidivism. This included all types of interventions although when only those that were aimed at reducing specific criminogenic needs<sup>10</sup> (such as cognitions about offending, deficits in social skills, and deficits in self-management skills) were included, the average effect trebled (30%). The most successful treatments were found to be those that were highly structured cognitive behavioural, or social learning, based and that delivered a high treatment dose. Programmes based on psychodynamic or non-behavioural interventions were not found to be effective. Andrews et al. described this as the responsivity principle where treatment was tailored to the learning style, culture, and language of participants. In practice this typically involved the use of modeling, guided practice, rehearsal, role playing, reinforcement, resource provision and detailed verbal guidance and explanations. The amount of treatment given was an important factor in outcome with increasing treatment dosage being associated with greater reductions in recidivism. Specific recommendations for minimum treatment dose were not provided, although many of the programmes reviewed had over 100 hours.

A further finding of the meta-analysis was that treatment programmes were more successful when delivered in the community than in prison. The average reduction in the community was almost twice that of programmes delivered in prison (Andrews et al., 1990).

A greater number of reconvictions are reduced when treatment is targeted at those with higher risk of offending; for example, a 10% reduction at the high end of risk might reduce offending in 9 out of 100 people but only 1 out of 100 of the low risk people due to floor/ceiling effects. Andrews et al. report that “the

---

<sup>10</sup> These are offense related problems that are dynamic in nature and when treated produce a reduction in recidivism.

effects of treatment typically are found to be greater among high risk cases than among low risk cases". An RP programme for DWD drivers would be compatible with these findings in that it would utilise cognitive behavioural techniques to modify the illegal driving behaviour of participants by developing self-regulatory skills. Specifically, identifying HRSs, SICs and the relapse pathways and developing coping skills to adaptively deal with them, and rehearsing such skills, would be compatible with the meta-analytic findings of the offender literature. In conjunction with the responsivity principle, the content of a RP programme for DWD drivers should utilise language and instructional techniques that are oriented to an active learning style (Andrews et al., 1990).

### Conclusion

This chapter has reviewed what is known about RP and its usefulness as a treatment intervention. The literature suggests that RP has been a promising technique and that, when applied appropriately, can reduce problem behaviours such as smoking and substance abuse. It has been used with those who sexually molest children where it has also been found to be promising and has been suggested as an intervention for people who are violent. Specific components, such as problem solving, have not been found to be more effective than other components and it appears that the most successful RP interventions have used the full range of components. The proportion of programmes that have been successful is fewer when less treatment is given with programmes in excess of 15 hours seemingly more often effective than those below this figure. However, the complexity of RP and the requirement for rehearsal of skills would suggest that longer programmes should be more effective. Where programmes have been short but successful they have often had a substantial maintenance component.

When DWD offending is considered the RP approach would seem to be appropriate. DWD offending is a problem behaviour that seems to have short-term gratification but is maladaptive in the long term. An RP programme would also be consistent with the principles of effective treatment found in the offender treatment literature.

The following chapter reviews the literature post development of the DOT programme, both RP and driving. The focus is on informing the reader of the

substantial developments in the literature in the intervening period; the impact of this on the DOT programme will be considered in the discussion chapter.

## **Chapter 4: Post 1993 Developments in Driving and Relapse Prevention**

The following chapter outlines what developments have occurred in the driving and RP literature since 1993. The changes to the driving literature relate to a model of the DWD offending process that we have developed with offenders from the DOT programme and a meta-analysis of the alcohol driving treatment literature. The major developments in the RP area include substantial theoretical developments and additional outcome studies employing RP treatment including a comprehensive review of randomly controlled, substance abuse, outcome studies by Carroll (1996). It is not intended to discuss the relevance of these changes for the DOT programme, as this will occur in the discussion chapter.

### **Post Driving Offender Treatment Programme Research on Driving Offenders**

The major areas in which the literature has developed have been the examination of the offending processes of DWD drivers (Wilson, Ward, & Bakker, 1998) and a major meta-analysis of the driving offender treatment literature by Wells-Parker, Bangert-Drowns, and Williams (1995).

Recent research by Wilson, Ward, and Bakker (1998) has examined the causal pathways and the attributions at each stage of the re-offense process specifically for DWD drivers to develop a model of DWD offending. This work represents a significant improvement over previous theories in that it integrates and details a range of relevant psychological and environmental factors and specifically focused on the DWD sub group of drivers.

### **The Offense Process of DWD drivers**

Wilson et al. (1998) used a grounded theory analysis of the offense chain information obtained from 28 male recidivist DWD drivers who were initial participants in the DOT programme to be described later. This produced a 15 stage model which identified the sequence of psychological, behavioural and environmental factors that contribute to DWD re-offending. Wilson et al.'s model is reproduced in Figure 7. The model consists of fifteen sequential stages, thirteen of which are divided into sub-categories which represent the different choice points of a

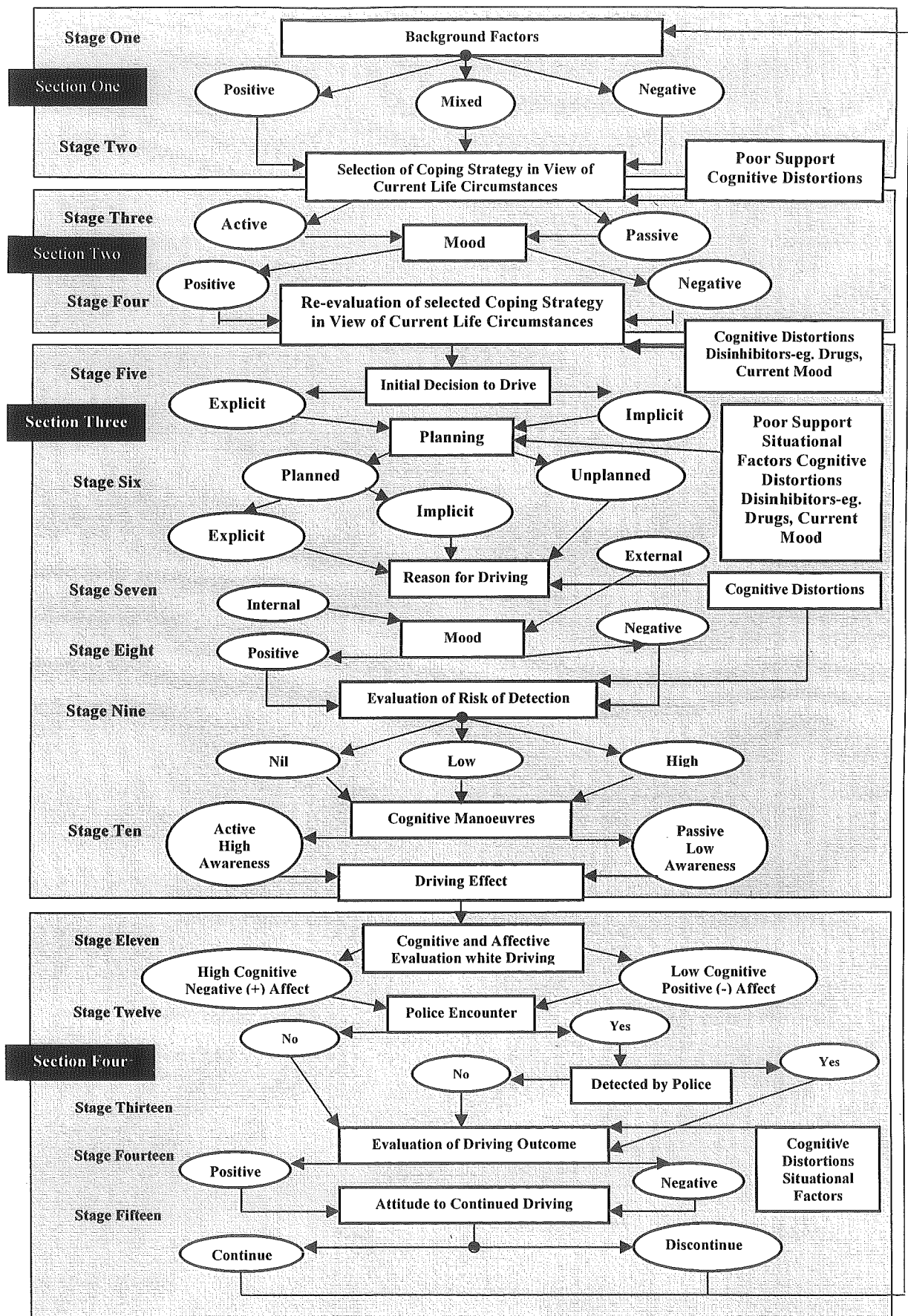


Figure 7. A Model of the Re-offense Process of Recidivism in DWD drivers.



particular stage. The other two categories, Re-evaluation of Selected Coping Strategy in View of Life Circumstances, and the Driving Event, had no sub-categories as it was found that all offenders passed through these categories. In addition the model contains four mediating variables, peer support, cognitive distortions, disinhibitors, and situational factors that influence participants reoffense process at particular stages.

Stage one of the model contains a variety of factors that identify how DWD drivers perceived themselves, their lifestyle, and circumstances, including their life experience prior to re-offending. Factors such as relationships with their partners/wife, children, friends, and/or work mates, financial situation, current employment and satisfaction with their lifestyle were all factors included in this stage. The impact of these factors resulted in movement via one of three possible emotional states (positive, negative or mixed) to the second stage of the model.

Stage two and stage three of the model focus on recent events in the offender's life. Stage two is a transition stage from the background factors that considers the selection of a coping strategy to deal with the background factors. These strategies were divided into active or passive coping strategies. The choice of coping strategy mood was strongly influenced by peer support and the use of cognitive distortions, hence their appearance alongside the model as mediating factors. Peer support for abstinence from driving frequently resulted in an active coping pathway while peer support for DWD resulted in a choice to take the passive pathway. High levels of cognitive distortions in the offender's chain meant both a choice for the passive pathway was more likely and that the offender would move more rapidly to re-offending. Stage three reflected that the coping strategy adopted was likely to affect the offender's mood either positively or negatively.

Section three of the model incorporates stages four through ten and describes the processes resulting in the commission of the DWD offense. In stage four the offender reviews the coping strategy in light of their current situation. If a change in the coping strategy occurs it is most likely that it will be for those who have chosen an active coping strategy in stage three. The presence of cognitive distortions and disinhibiting factors, such as alcohol or drugs, impact on the offender's reconsideration of the coping strategy and result in a decision to drive. The decision to drive, stage five, is either implicit or explicit depending upon whether the offender stated their intention to drive or suggested that their decision to drive was

implicit (e.g., "I suppose it's a habit"). Stage six considered the means by which access to a vehicle was obtained. A minority of offenders, all of whom had been previously using active coping strategies, went through the unplanned sub-category where atypical circumstances resulted in the offender feeling that it was necessary to drive. The planned category involved further distinction of offenders in to either implicit or explicit planning categories based on the means they adopted in their planning to access a vehicle. The explicit planning offenders were aware of actively formulating a plan to access a vehicle whereas the implicit planning offenders consciously placed themselves in a situation where access to a vehicle was highly likely to occur and where they could take the opportunity when it arose. Mediating factors such as peer support, and cognitive distortions, affected the planning stage.

The reason for driving, stage seven, was divided into internal or external based on the participants perception of the reason for driving. Internal reasons involved references to factors such as boredom, stress, or a need for excitement, as internal needs that could be met through driving. External reasons were attributed to obligations to drive due to pressure from the situation or peers. Many external reasons given for driving were cognitive distortions, which allowed the offender to rationalise to himself that he was not responsible for driving. The offender's evaluation of their situation and perceived reason for driving resulted in either a positive or negative mood in stage eight. The majority of offenders experienced a positive mood.

Stage nine involved an evaluation of the risk of detection and resulted in three sub-categories, high, low or nil, depending upon the perceived risk of detection. Stage ten involved the offender using a variety of cognitive manoeuvres, (i.e., cognitive distortions such as minimisations, rationalisations, and faulty beliefs) to justify or facilitate driving. Such manoeuvres seemed to break the remaining cognitive and/or emotional restraints to DWD. Depending upon whether the offender has high or low levels of awareness about the possible negative consequences they are separated into active high or passive low awareness sub-categories. Offenders in the active sub-category typically had in mind either, a strategy of how to deal with the police if they were stopped, or a strategy to avoid detection. Passive strategies usually involved avoidance of considering the consequences either by focussing thoughts elsewhere, or by being too drunk or drugged.

Section four of the model involves the remaining five stages that relate specifically to driving. Stage eleven is the driving event itself. Stage twelve considers the cognitive and affective evaluation of the driving event. The High Cognitive/Negative (positive) Affect sub-category included offenders who used a high number of cognitive manoeuvres while driving and generally experienced negative affect, although a small minority experienced positive affect. The high number of cognitive manoeuvres appears to allow the offender to control their negative cognitive and/or affective response to the DWD event and its possible consequences. The Low Cognitive/Positive (negative) Affect sub-category utilised few of the manoeuvres of the previous sub-category as these offenders tend to direct their thoughts away from the possible negative consequences of driving and generally focus on the positive aspects and consequences of driving such as relieving boredom or visiting friends. Whether or not the Police were encountered and, whether this resulted in detection, or not, formed stage thirteen and its sub-categories. The evaluation of the driving outcome formed stage fourteen of the model where offenders evaluated the event as either positive or negative depending upon their cognitive and/or emotional responses. The evaluation of driving outcome for drivers detected by police was typically negative whereas those who avoided police detection were typically positive and indicated that the person was highly likely to continue driving. The evaluation led to the final stage, stage fifteen, which considered the Attitude to Continued Driving. The intention to continue driving was rarely stated and it was often necessary to assess the person's attitude by considering their evaluation of the outcome of driving. Finally, the person could return to the background factors stage by which the process can reoccur.

Our model takes into account the heterogeneous and dynamic nature of DWD offending and allows for drivers to move through several alternative pathways before they eventually re-offend. Included among these stages were six that specifically focused on the thoughts that were related to offending. For example, when deciding whether or not to drive, cognitive distortions<sup>11</sup> were often given as reasons to drive, which allowed offenders to avoid taking responsibility for their subsequent driving. Also seen as important mediating factors were, peer support,

---

<sup>11</sup> Cognitive distortions include rationalisations, minimisations, incorrect beliefs, faulty logic, and denial that allow the offender to move closer to offending.

situational factors and disinhibitors such as alcohol and drugs. Only Donovan et al.'s (1983) theory has attempted to integrate the known personal, demographic and psychological characteristics of driving offenders. The DWD model supports the validity of some features of Donovan et al.'s theory. Some driving offending may represent a maladaptive attempt to cope with negative intrapersonal feelings. The DWD model, however, includes descriptions and examples of such stressors. It also identifies positive life events as possible causes of offender stress. Our model also suggests that several factors identified by Donovan et al.'s theory does not appear to apply to DWD recidivists. For example, Donovan et al. suggested that anger-hostility would increase following the driving event whereas our results found the reverse to occur with DWD drivers generally experiencing a decrease in negative affect and an increase in positive affect. Driving may also increase their sense of control by removing them from a stressful situation. Contrary to Donovan et al.'s model, alcohol was not found to be a major contributing factor to driving offending but rather a mediating variable that adversely affected a minority of offenders. Donovan et al.'s model did not account for positive states whereas the DWD model accounted for individuals who drive to enhance their positive emotional or physiological arousal. Peer support is also highlighted as an important mediating variable in the DWD model but was given scant attention in Donovan et al.'s model.

Our model provides an in depth view of the processes involved in disqualified driving. A major strength of the model is its focus on recidivist DWD drivers. In addition, it captures the diversity of dynamic processes involved in re-offending and describes how these processes are related and which are the most significant at different points in the relapse process. The model is also able to accommodate both simple and complex patterns of re-offending. Factors that have been identified as relevant to driving offending in the past, such as alcohol, are incorporated in the model and their roles clarified in the re-offending of DWD drivers.

We found that an alcohol problem was not the main factor associated with driving offending for DWD drivers. Alcohol was found to be only a mediating factor that may diminish the perception of control over driving behaviour for some offenders. All offenders who drank prior to their DWD re-offending did so in a social setting, some drank for tension reduction purposes, and only three of the offenders drank on a daily basis.

Our model also incorporates many of the psychological factors identified in past research as contributing to driving recidivism. For example, sensation seeking, depression, and lack of assertiveness are all catered for by categories in the model. Also important is the recognition of the role that stressful life events play. Many of these stressful events are typical of those encountered in the general population; failure to cope with these in an adaptive manner contributed to relapse. The model also explicitly described the influence of positive and negative emotions in precipitating the re-offense process. Positive emotional states as a factor in driving offending has been largely ignored, yet such positive states can in themselves reduce ability to cope as the offender may chose to increase a positive emotional state by driving.

Boredom was a factor also seen as important in the re-offending of some DWD drivers who drove to reduce or eradicate affective states. We also identified cognitive factors such as, cognitive distortions, planning and evaluation as being important in the offense process. Our study supports the research that indicates that alcohol is only one of many factors contributing to driving offending recidivism. Other factors, such as cognition or emotion have not been incorporated into current treatment programmes for driving offenders and may explain the relatively poor outcomes of such treatment. By outlining offenders' core problems and the relapse pathway that they have taken, the DWD model could contribute to more appropriate intervention for DWD drivers. For example, some DWD drivers could use driving as a means to reduce the intensity of negative affect and lack the skills to manage high-risk situations and to effectively regulate their lifestyles. Therapy could focus on teaching these individuals more adaptive self-regulation and mood management skills.

### **Outcome Studies in Driving**

#### **Post DOT Programme Treatment Literature**

A substantial meta-analysis has been conducted by Wells-Parker, Bangert-Drowns and Williams (1995), into the efficacy of alcohol treatment programmes at reducing recidivism and fatal crashes. Beginning with almost 1,500 studies the authors required studies to meet two criteria: participant samples had to

include DWI offenders; studies had to either compare two forms of remediation (broadly defined to include legal sanctions and other forms of treatment) or to include a control group. Ultimately 215 studies were identified that met these criteria. An expert panel further classified them on the basis of the strength of their methodologies. In terms of recidivism, greater effect sizes were found in the programmes with the weaker methodologies. However, even the more robust studies found a small, but significant, effect on recidivism of between 7 and 9%. Wells-Parker et al. also found that rehabilitation was consistently more effective in reducing DWI recidivism than sanctions such as license revocation. However, there is some evidence to suggest that DWI rehabilitation is associated with an increase in non-alcohol related events for DWI offenders, and thus may have little impact on overall crash statistics (Wells-Parker et al., 1995). They also found that combinations of modalities - in particular those including education, psychotherapy counselling and follow-up contact/probation - were more effective than other evaluated modes for reducing drinking/driving recidivism. The broader range of problems targeted through these modalities may account for their better performance. There is also evidence that addressing problem behaviour and attitudes can reduce recidivism and accident involvement among driving offenders (McKnight & Tippetts, 1997).

Together these studies suggest that the treatment approach used in the DOT programme was not inappropriate. The comprehensive nature of RP addresses a wide variety of problem behaviours in terms of skills development and cognitive processes.

### **RP Theory Post 1993**

The developments in RP theory have come largely as a consequence of development of the criticisms of Marlatt's model following on from Ward (1992). Ward and Hudson (1996) consider that both Marlatt's formulation and Pithers et al.'s adaptation for sex offenders rely on diverse theoretical sources that are not well integrated resulting in conceptual confusion with regard to mediating mechanisms such as the AVE. In Pithers' model for sex offenders the AVE and the problem of immediate gratification are both considered to be mediating mechanisms and both are considered to operate at the same time despite being based on competing processes, one positive and the other negative.

One criticism of Marlatt's model is that it focuses on relapse through the covert pathway; seemingly irrelevant decisions (SIDs) are considered to set up high risk situations (HRS). The person's sense of control over their restrained behaviour is threatened with the major HRS considered to involve negative emotional states, interpersonal conflict and external situations. Recent work by Hudson, Ward, & McCormack (1999), identified that alternative pathways to the covert route were present in the offense descriptions of sex offenders. Taking the offense descriptions of 86 sex offenders they found that almost a third reflected an appetitive, positive pathway which was associated with a resolve to continue offending. Only a quarter reflected the traditional covert planning, negative affect, restraint pathway. The third pathway that they identified reflected negative restraining processes but with explicit (as opposed to covert) planning. The remaining pathways were mixtures of these others (e.g., positive pathways with negative beginnings).

The Wilson, Ward, and Bakker (1998), model of disqualified driving presented earlier highlights that DWD drivers have positive and negative pathways that lead to relapse. Ignoring the positive pathways will reduce the efficacy and relevance of treatment for offenders with positive pathways. Pithers' model for sex offenders exacerbates this by limiting the pathway to a predominantly covert route based on cognitive distortions; offenders who deliberately choose to offend are not easily catered for.

Wilson, Ward, and Bakker (1998), have found that DWD drivers also have multiple pathways to offending. In the previous section the process model was expanded at some length and it highlighted the importance of a treatment process with a capacity for multiple pathways and recognition of the role that cognitions and affect play at various times in the offense process. Using an offense process focus (Ward, & Hudson, 1996), rather than the Marlatt model based predominantly on the restraint pathway, provides a means for doing so.

A related criticism of the RP model proposed by Marlatt, is that when applied to offenders it does not really cater to those who are untreated and have no intention of restraint (Ward, Hudson, & Keenan, 1998). Such individuals are not seen to relapse as such but rather they continue to offend. The implication is that the model does not need to cope with these men. Hudson, Ward, and McCormack (1999) consider that a model that incorporates this wider scope would seem

beneficial to treatment as it provides offenders with an understanding of more than just their most recent, or typical, offense as is often used in sex offender treatment programmes. They also consider that inclusion of the offense process in the treatment model is particularly important when RP is used to structure treatment. Including the offense process within the disclosure of offending section and within the RP plan allows for such additional scope. Hudson and Ward consider that this makes more sense to the offenders as including the problem behaviour process (Hudson & Ward, 1996) provides a model that is broad enough to cover what offenders actually do rather than essentially telling them how they behaved and expecting them to agree. Using an offense process approach would seem superior to the Marlatt model for problem behaviour and the Pither's model as applied to sex offenders.

A further difficulty with RP is the terms and complexity of the intervention themselves. Many of the concepts of RP interventions have labels that may not have much heuristic meaning to the offenders. For example, terms such as "seemingly irrelevant choices" and the "problem of immediate gratification" do not readily convey the concepts involved. There are also many different skills that are taught as part of RP programmes that require practice to ensure they are embedded in the offender's repertoire. Many interventions have provided little time for such rehearsal in the treatment programmes (e.g., Gruder et al., 1993).

In an RP model for DWD drivers, the offense process developed by Wilson et al. can be used to mitigate these criticisms of the original model proposed by Marlatt. There are multiple pathways available and recognition of the different mediating variables and cognitions operating at the different stages of the DWD offense process. The model is sufficiently broad in scope to allow for the most recent or most typical offense to be incorporated during treatment and this should aid in its acceptance by offenders.

### **RP Outcome Studies Post 1994**

There have been several outcome studies that have been reported in the literature since 1994. Of these, a comprehensive review of 26 outcome studies employing random assignment to treatment for substance abuse, has been conducted



by Carroll (1996). In a similar vein, Marshall and Anderson (1999) have reported a review of outcome studies in the sex offender treatment literature.

Carroll (1996), has summarised the RP outcome literature as follows: "Across the different substances of abuse, there is evidence for the effectiveness on substance use outcomes for RP over no-treatment control conditions, mixed findings when compared with attention and discussion control groups and findings that RP appears comparable to but not better than other active treatments." Despite not finding RP superior to other active treatments Carroll highlights three areas in which RP holds particular promise: reducing the intensity of relapse episodes where they do occur, ongoing improvement over time compared to other treatments, and RP being more effective for the more severe substance abusers.

A number of additional outcome studies of RP treatments have been conducted in addition to those already listed. Specifically, 5 smoking studies (Becona & Vazquez, 1997; Cinciripini et al., 1994; Ehrshoff, Quinn, & Mullen, 1995; Secker-Walker, Solomon, Flynn, Skelly, & Mead, 1998; Secker-Walker et al., 1995), two alcohol studies (Cisler & Nawrocki, 1998; O'Farrell, Choquette, & Cutter, 1998), two drug studies (McKay, Alterman, Cacciola, Rutherford, O'Brien, & Koppenhaver, 1997; Stephens, Roffman, & Simpson, 1994), a treatment programme for atopic dermatitis (Ehlers, Stangier, & Gieler, 1995) and a RP programme for obsessive compulsive disorder (Hiss, Foa, & Kozak, 1994) have been reported.

Of these studies, 7 (Becona & Vazquez, 1997; Cisler & Nawrocki, 1998; Cinciripini et al., 1994; Ehlers et al., 1995; Hiss et al., 1994; McKay et al., 1997; O'Farrell et al., 1998) found significant effects for RP over control conditions in reducing relapse over the range of problem behaviours. The smoking studies by Ehrshoff et al. and the 2 by Secker-Walker and colleagues used minimal treatment based on either self-help material or one hours "individualised RP counselling". Given the limited "dosage" this result does not seem surprising. The level of RP treatment provided in the successful programmes was at minimum 7.5 hours (Cinciripini et al., 1994) and up to 24 hours (Ehlers et al., 1995). The elements comprising the RP interventions varied although all the programmes used development of coping skills, such as problem solving or conflict resolution. Some programmes used more comprehensive RP programmes that included cognitive restructuring (e.g., Hiss et al., 1994), relaxation (e.g., Cinciripini et al., 1994; Ehlers

et al., 1995), self monitoring (e.g., Becona & Vazquez, 1997; Cinciripini et al., 1994; Ehlers et al., 1995; Hiss et al., 1994).

These results mirror those of the earlier studies that predated the DOT programme and suggest that the conclusions drawn about the utility of RP for driving offenders has not been undermined by more recent studies.

## Chapter 5 - Hypotheses

The relapse prevention approach has not been used with driving offenders. It was the intention of this study to employ such an approach in the treatment of driving offenders who repeatedly drive while disqualified. This required both the development of a treatment programme and its evaluation. There are also several research questions that will be addressed.

1. Does a relapse prevention treatment programme for drivers convicted of driving while disqualified reduce reconviction – either by delaying or stopping further offending; both in terms of driving and other crime?

The main reasons for using RP as a treatment strategy for DWD drivers were: (i) Driving offenders report a compulsion to drive (Mirrlees-Black 1994). (ii) There are many elements in the offending processes of driving offenders that are found in the relapse processes of substance abusers and sex offenders (e.g., lack of coping skills, importance of SICs and cognitive distortions, and the short term positive nature of driving seems more important than the longer term negative consequences of being caught). These elements are also similar to those found in sex offenders where relapse prevention treatment has been successfully applied (Marques et al., 1989; Pithers et al., 1989). Deficits in coping skills contribute to risky driving in youth (Donovan, 1983; Johnson & White, 1989). Many driving offenders have been found to be subject to negative affect, elements of lifestyle imbalance - proneness to boredom, unemployment (Donovan, 1983). (iii) Driving offending is a behaviour that has high relapse rates (Bailey, 1994; Bakker, 1997) and that has been found to have a predictable pattern (Donovan, 1983). (iv) RP is a cognitive behavioural treatment and such treatments have been found to be more effective with offenders than other interventions (Andrews et al., 1990). (v) Other treatment strategies for driving offenders are limited to alcohol related treatments that are of limited importance to driving offenders for whom alcohol is not an issue.

An additional strand of evidence is seen in the offender literature that supports the value of cognitive behavioural treatment strategies with criminal offenders (Andrews et al., 1990). The driving offenders targeted for treatment will be those who are more at risk and who generally have histories of criminal as well as driving offending. Such offenders have also been found to have elements of relapse

similar to substance abusers (Zamble & Quinsey, 1991). Such offenders have been found to experience negative affect, interpersonal conflict, have very poor coping skills and to see offending as a viable response to life problems. They also describe their offending, once begun, as being largely inevitable and out of their control; elements that also resemble the description of substance abusers regarding substance abuse. A corollary of this hypothesis is that since DWD is being targeted for intervention there should not be a difference in any alcohol related driving that might occur post treatment. A programme that focuses on controlling driving behaviour should not affect those who drive as a direct consequence of alcohol use; such offenders would be more appropriately treated in a traditional alcohol-based driving treatment programme.

2. A second hypothesis considers whether within treatment changes are in the expected direction.

If coping deficits are causally related to offending then treating such deficits should increase skills and reduce measures related to coping deficits such as anger and anxiety.

The treatment programme will develop coping skills for interpersonal problems such as anger, lack of assertiveness and communication difficulties. We would expect that these skills should be evidenced in changes in pre and post treatment measures of anger and aggression, social skills, anxiety and cognitions related to driving. It would be expected that within treatment changes would decrease negative affect, anxiety and driving related cognitive distortions and increase social competence and assertiveness.

3. The third hypothesis considers whether treatment effect will differ between settings.

It would be expected that treatment in the community should be more effective than treatment in prison settings. Being exposed to the cues related to driving while going through treatment should mean that the skills obtained are more readily tested while in the community. Prison does not allow for practical application of the majority of skills that treatment will provide; for example, relationship skills needed in prison are likely to be different from those needed in the community. Rehearsal of assertiveness in prison is likely to produce substantially different responses between the two settings. It would therefore, be expected that the prison setting would produce smaller treatment effects than community based treatment.

This should be evident in both pre and post test measures of treatment effect and long term outcomes in terms of recidivism. If the skills are not rehearsed and practised then these skills might deteriorate in the period of time between treatment completion and release. For this reason treatment should be conducted as close to release as possible. In addition because community based driving offenders would be exposed to HRSs during the treatment programme they should be able to practise and experience their newly developed skills and achieve a greater sense of self-efficacy. A question that could be asked is whether the two groups are at the same risk of further offending. Those sentenced to community based sanctions might be expected to have fewer previous offenses or their offending could be less serious and thus not be given a prison sentence. The groups will therefore need to be tested for such differences.

## Chapter 6 – Method

The method section will be divided into two sections. The first will deal with the programme development, the second with the evaluation of the programme.

### Programme Development

The programme was organised around a framework based upon the relapse model in Figure 8. This model is similar to Marlatt's model in that several pathways lead from predisposing factors to HRS; specifically, lifestyle imbalance, the covert pathway of SICs, and/or unexpected events. A positive pathway (e.g., celebration) was also explained as a possible pathway. From the HRS the PIG and cognitive distortions weaken self-efficacy to restrain driving behaviour and lead to driving. The lapse is defined as any behaviour immediately prior to the actual illegal driving behaviour. For the same reasons as discussed by Pithers et al. (1989), to define the lapse as the first instance of driving might be seen by participants to condone driving – “I have only lapsed not relapsed”. The immediate precursors to driving are therefore defined as the lapse – for example, getting the keys, getting in behind the steering wheel of the car<sup>12</sup> and a relapse as the first instance of driving behaviour. While these might be seen as being HRSs and therefore result in the same criticism made earlier of Pithers' model (the PIG is now seen to occur after the lapse rather than a HRS), these behaviours themselves are illegal when performed on a public road. The offense process was used as the major mechanism to identify the steps involved in offending for each offender. The model of relapse in Figure 8 was simply used to organise and illustrate the interventions available at each step. However, as Figure 8 shows, HRSs before these events were associated with the PIG.

A brief case study will serve to demonstrate how the model of relapse prevention can be applied to disqualified drivers. *S* is a 28-year-old man who has had 12 years of driving since his first offense at 16 years of age, and has incurred 25

---

<sup>12</sup> In an unlicensed driver if these occur on public property such as a road they are themselves illegal behaviour. They were therefore presented as occurring on private property such as in a garage.

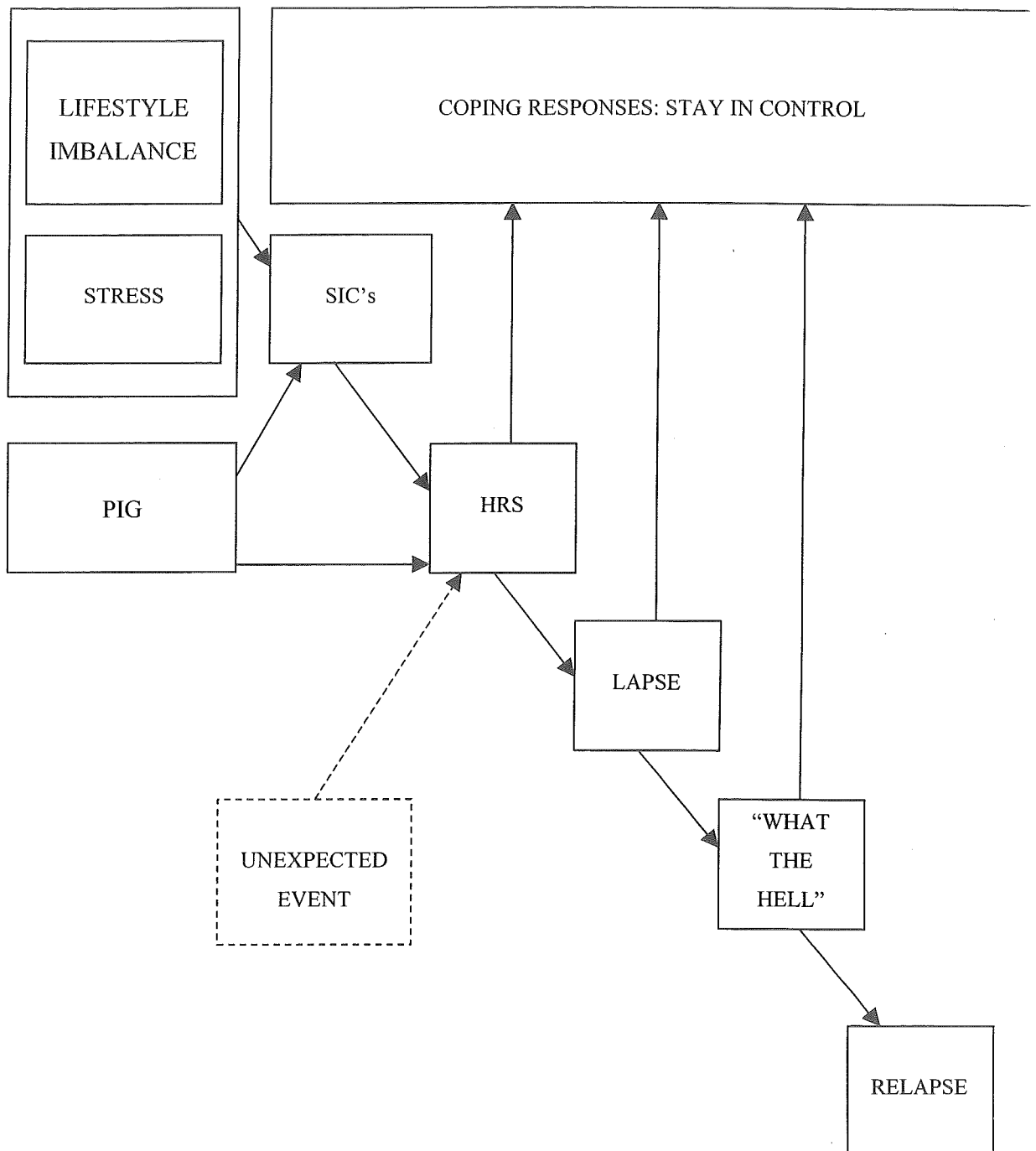


Figure 8. DOT Model of Relapse.

convictions for DWD. In addition, *S* has other minor criminal convictions for theft from a vehicle, vehicle conversion, and common assault. He has been incarcerated twice for DWD and his license is indefinitely suspended because of previous drunken driving. At the time of his license suspension, he had stopped drinking

alcohol. His last three DWD offenses happened while he was sober and running errands of one sort or another, for example, collecting the children from school, or after a disagreement with his partner. He had been living in a de facto relationship that involved the care of two children. This relationship was not a harmonious one, and financial problems through his lack of employment compounded other problems in the relationship. These included his tendency to drink to excess, to become violent, and an inability to communicate effectively:

His lack of financial resources meant that he rarely engaged in positive activities or events to offset the stress produced by his living circumstances. This lifestyle imbalance made him vulnerable when any further stresses were added, for example, an unexpected bill or a disagreement with his partner. On such occasions he would consider himself hopeless, become angry, and, ultimately, want to drive. Typically, he would rationalise this desire to drive in a number of ways; for example, stating that he needed to deliver something to a friend. Such cognitive distortions functioned to further weaken his perception of control or self-efficacy, and lead to him obtaining the car keys and driving. Cognitive distortions were also evident while he was driving, and served to maintain this behaviour. For example, he would frequently tell himself that the chance of being caught was low and that if he drove carefully he would remain undetected. On the occasions he had been caught, he considered himself unlucky, and thought this to be unlikely to occur again.

This case study will be used to illustrate the programme that will be described below.

### **Programme Description**

The Driving Offender Treatment programme was carried out in a group format and based on the assumption that continued driving offenses emerge from factors such as an inability to manage personal and relationship issues in an adaptive way. The various therapy modules were selected by reference to the available clinical and research literature on driving offenders at the time of programme inception; 1994. The programme was retained in that form until after evaluation so that changes in programme content would not affect the evaluation.



A relapse prevention framework (i.e., the offense chain) was used to organise treatment delivery that began with an overview of the framework followed by a detailed exploration of each participant's offense process. In this manner each participant had a clear understanding of how their particular offending fitted into the framework. Of particular importance were the identification of early warning signs, called "red flags", of movement down the offense chain; self monitoring of choices and cognition was highlighted as an essential skill for preventing relapse. This process will be described in more detail below. Once the offense process was available to participants, the deficits in skills and cognition were more readily apparent and provided a rationale for the other therapy components. These therapy components were anger management, stress management, problem solving, communication skills, cognitive restructuring, and relapse prevention application. The relapse prevention framework was used as the rubric for treatment and all treatment modules were related to this framework throughout the programme.

### **Programme Setting**

The initial two pilot groups were run at Rolleston prison and were each facilitated by an assistant psychologist and an experienced probation officer. Rolleston prison is a regional prison in the South Island of New Zealand for up to 400 medium to minimum security male prisoners. The sessions were videotaped for later supervision sessions with an experienced clinical psychologist, and also to check adherence with the treatment content. Following these pilot groups, the programme was reassessed to ensure that the content and delivery of material were matched to the treatment participants in line with the responsivity principle. Specifically, the language used, pace of delivery, and role plays were considered. Following this review minor changes were made to the order of programme modules and the choice of terms used, and another three groups were run in the prison, and an additional twelve were run in the community. The community setting had the advantage of being in the central city area close to public transport, and could take offenders sent by the court while on remand or with final sentencing deferred until the end of the programme. This resulted in high attendance rates at the programme and provided judges with an alternative to incarceration. Offenders were excluded from the programme if their offending was strictly alcohol related; that is, men with

disqualifications only for alcohol offenses, rather than driving while already disqualified, were also excluded. In a similar vein, offenders in the prison programme had an incentive to attend in that their possibility of early parole was enhanced by attendance at the programme. The differences in motivation across the groups should, therefore, not have been great.

## **Participants**

Men in the community-based programme were referred either through the courts or directly from probation officers. Participants in the prison programme were volunteers selected from offenders who had been incarcerated for driving while disqualified convictions. The prison volunteers were provided with information about the programme (see Appendix 2) and gave their informed consent to participate. It was made clear that there would be no negative consequences if they declined to participate but that attendance may benefit them for consideration for early parole. In total, 144 men participated, ranging in age from 18 to 56 years ( $M = 31$  years,  $SD = 8.1$  years).

## **Assessment**

Each potential group member was interviewed by the group therapists before the programme commenced. Offenders who were considered to be likely to re-offend on the basis of the number of previous DWD convictions, or who were likely to go to prison, were given priority. In addition, participants were questioned by group facilitators using a semi-structured interview regarding their motivation for treatment. Consideration during the interview was also given to ensure that they had a sufficient level of intellectual functioning so that they could understand the course material, and further, did not have any psychiatric conditions that would hinder such understanding. In addition to driving-related issues, the interviews covered social and family circumstances, and psychiatric and medical history. Pre-test measures were taken using a range of paper and pencil tests (a subgroup of which were repeated at the conclusion of the treatment programme) following an initial assessment interview. These tests measured different aspects of functioning theorised as potentially important to their offending and are described in detail below.

## Measures

1. AUDIT. (The Alcohol Use Disorders Identification Test) (Babor, de la Fuente, Saunders, & Grant, 1989).

A score of 5 or more qualifies a person for a positive case diagnosis for problems with alcohol use on this scale. No reliability has been reported but validity has been measured in terms of predictive accuracy at identifying hazardous consumption. No numbers of participants were reported. Mean positive predictive accuracy was 60% and negative predictive accuracy was 95%. The AUDIT was used to assess the alcohol problems that existed in the twelve months prior to the program. This provided some indication of the potential role alcohol might have played in the participant's lifestyle and offending and was used to screen out offenders whose predominant offending was alcohol related. This was determined by having both a score on the audit above 5 and by the majority of convictions in the prior 12 months being for alcohol related driving rather than DWD.

2. State Trait Anger Expression Inventory (STAXI) (Spielberger, 1991).

This instrument is a three part measure consisting of 44 questions answered on a 4-point Likert scale from 1 (not at all/never) to 4 (very much so/almost always). The STAXI measures five aspects of anger including: State Anger, the degree to which the respondent feels angry at a particular point in time; Trait Anger, the degree to which an individual feels disposed to being angry; Anger In, the degree to which a person internalises anger; Anger Out, the degree to which anger is expressed towards other people or objects; and Anger Expression, the general tendency to express anger regardless of the direction of that expression.

Both the state and trait scales have been shown to have high internal consistency ( $\alpha = .93$  and  $.86$  respectively) (Spielberger, 1991). The anger expression scales (i. e., Anger In, Anger Out and Anger Expression) have also been shown to be valid with respect to both New Zealand (Knight, Chisholm, Paulin, & Waal-Manning, 1988) and American (Spielberger, 1991) samples. Good levels of convergent and divergent validity have been demonstrated for the anger expression scales (Spielberger, 1991). This scale measures state and trait anger that is hypothesised as being a factor in some offender's motivation to drive.

3. Simple Rathus Assertiveness Scale (SRAS) (Rathus, 1973).

This instrument was used because some studies have shown that driving offenders can lack social contacts and report being socially isolated. Test retest reliability is reported to be  $r = .78$ , with split half reliability  $r = .77$  (Rathus, 1973). Validity in terms of "how they would behave in specific situations in which assertive outgoing behavior can be used for profit" ( $r = .7$ ) has been described as satisfactory (Rathus, 1973). Nevid and Rathus (1979) found eight and nine factors for males and females respectively indicating the situation specific nature of assertiveness. New Zealand norms have been provided by McCormick, Hahn, and Walkey (1984).

#### 4. State Trait Anxiety Inventory (STAI) (Spielberger, 1983).

Spielberger reports norms for several groups with reliability coefficients ranging from .65 - .75. Coefficient alpha was above .9 for both state and trait scales. Construct validity was tested by using contrast groups. Neuropsychiatric patients for whom anxiety was a major symptom were compared with normal participants with all but one of the psychiatric patients having higher trait scores. State scores were validated by comparing military recruits at the beginning of a stressful training programme with students of similar age in non-stressful conditions. The scores for the recruits were much higher. Students compared during examination, relaxation and normal classroom conditions also provided validation for the state scale. Convergent validity was established by comparing the STAI with other measures of anxiety such as the IPAT Anxiety scale ( $r = .75 - .77$ ), Taylor Manifest Anxiety Scale ( $r = .73 - .85$ ) and the Affect Adjective Checklist ( $r = .41 - .58$ ).

#### 5. The Driving Offender Treatment (DOT) scale. (Bakker, 1999; see Appendix 1 for a detailed description of the development of the DOT scale including its reliability and validity).

The DOT scale was designed specifically to measure drivers' cognitive distortions related to driving offending. A collection of items was generated from interviews in which offenders described their thinking regarding offending. The DOT scale was administered to 132 male offender participants; 51 were members of the DOT programme tested before the programme and 81 were imprisoned men who were not members of the programme. The internal reliability coefficient (alpha) was .86. Test-retest reliability was determined from 26 non driving offenders tested at an interval of 18 days and 51 driving offenders who were not participants in the DOT programme who were tested at an interval of 60 days.

The first group of 26 offenders resulted in a correlation between first and second tests of .75; the second group tested after 60 days had a correlation of .64. These were considered to confirm reliability of the measure.

Validity was obtained by correlating DOT scale scores with time to further disqualified driving offending. The survival analysis showed a significant relationship between DOT score and survival time to subsequent offending (Wald statistic 3.99,  $p < .05$ ) indicating that those with low scores on the DOT scale had shorter time before reconviction than those with higher scores.

The assessment data were integrated into a formulation for each individual, and specific skill deficits and behavioural excesses identified. The facilitators worked in pairs with the prison based programmes including two post graduate clinical psychology students working with two probation officers. Following a semi-structured interview looking at motivation, potential participants were assessed through a more thorough interview focussing on the offenses that they had committed, their thoughts and feelings during these offenses and about their lifestyles and relationships. This enabled the therapists to build up a picture of the relevant factors that contributed to the offending and in conjunction with materials from the scales allowed a formulation to be developed for each participant. This meant that the treatment programme appropriately targeted the participant's identified problems. Although all men received the same group programme, individual differences were taken into account in a number of ways, for example, in the way homework tasks were structured.

### **Programme Content and Design**

All treatment was conducted in groups comprising 8 to 12 driving offenders. Group treatment is both a more effective use of time (i.e., a greater number of people can be dealt with at once) and arguably a more effective intervention in that it can serve to initiate processes that individual therapy cannot, for example, challenges from other driving offenders (Marshall, Jones, Ward, Johnston, & Barbaree, 1991). Treatment occurred over 10 weeks and was divided into the introductory overview of RP followed by five modules: cognitive restructuring, social skills, anger management, problem solving, and relapse prevention. Groups met 4 days per week and for 2.5 hours per day. Non-therapy

time for prisoners was spent engaged in prison work (e.g., kitchen or garden) or at leisure. For those in the community, many were employed and returned to work, others continued with their usual routines.

The programme was based on the model of relapse described earlier (see Figure 8), with the construct of the behaviour chain used to focus the initial treatment process. This provided an overview of the treatment content by identifying each step leading to driving, and also of the necessary coping skills to deal with each. The initial group sessions were aimed at not only providing a programme overview but also establishing appropriate group rules and an environment in which disclosure would occur. A number of practical exercises to establish rapport and group cohesion were engaged in. These included an outdoors pursuit day that involved practical exercises requiring group co-operation to solve. Other exercises involved posters that the offenders used to describe the history of their offending. As much as possible practical exercises and games were used to make the information accessible to offenders. Andrews and Bonta (1994) argue for the principle of responsivity, which they define as providing interventions in the manner most conducive to the learning style and abilities of the offender. This means as much as possible avoiding didactic learning and styles commonly used in the education system which most of these offenders will have failed. Instead they suggested that practical exercises involving active participation would be more effective. Ross and Fabiano (1985) have developed the Cognitive Skills programme for developing cognitive skills in offenders utilising this principle with some success. The DOT programme has introduced games that incorporate the principles being learned as one means of getting greater participation of offenders and embedding knowledge. Teams compete against each other and may have to define a concept, give examples, role play examples of coping strategies etc. Thus, while the programme description below will provide the content of the modules, the manner in which the content is delivered and skills developed is based on a learning style suitable for offenders.

### **Model of Behaviour**

Understanding the relapse process was considered to be an important part of being able to apply coping skills appropriately. To assist the men in their understanding of their relapse process the principles of modelling and social learning

theory (Bandura 1977, 1986) were used to demonstrate how behaviour is learned and, most particularly, how it can be changed. Examples were used from group members' families to illustrate how many behaviours are learned and become habitual. These examples enabled the offenders to trace the origins of their driving behaviour, and to understand how their behaviour chain (relapse process) developed. The existing RP model at the time the DOT programme was developed allowed for other pathways than the negative affect and covert pathway. However, as Marlatt and Gordon (1985) had found few substance abusers went through a positive pathway (8% in total see Table 2), it was assumed the same was true of driving offenders and so no specific treatment interventions were specifically targeted at these potential alternatives. The Wilson et al. model was developed as a consequence of the data collected during the initial treatment groups and was used to test this assumption. Thus the intervention described the AVE and the PIG as the major mediators of the relapse process. However, the model of relapse was presented mostly to organise treatment. Participants recounted their offending, rather than to fit the relapse model. They were required during treatment to apply the model to their offending rather than the other way round.

Participants were introduced to the construct of a behaviour chain, and the idea that if a person keeps driving while disqualified it can become a habit that can be difficult to break. That driving behaviour serves a function for persistent offenders was also stressed, for example, as a way of reducing negative affective states or enhancing mood. In addition, they were introduced to the notion that people drive while disqualified for a number of reasons that are different between individuals, as well as different within individuals over time. The utility of learning new skills to replace driving as a maladaptive strategy for coping with stress or to increase self-regulation was introduced. The participants were encouraged to see themselves as being responsible for learning skills to manage their lives more effectively, and therefore to control and stop their driving behaviour. The behaviour chain provided a framework that was used throughout the programme to explain the specific problems being addressed by the treatment modules. A full copy of the treatment sessions and the handouts used is provided in a treatment manual available from the author.

## Relapse Prevention Module Part 1

In these 12 sessions the relapse process was re-presented as a series of links in the chain of behaviour, and at each step the specific coping strategies were presented. The relapse module components and associated adaptive coping strategies were as follows:

Step one in the process is *Lifestyle Imbalance*. This occurs when the pressures and stresses of life outweigh, or are out of balance, with the positive aspects. Examples of such stressors include relationship problems, financial problems, and further court appearances. The proposed coping skills for such imbalance focus upon increasing reinforcers; for example, relaxation training and physical exercise, together with problem solving and goal setting, and balancing "shoulds and wants". Lifestyle imbalance could lead directly to HRSs or via the covert pathway of SICs.

An alternative pathway, and the second component of the relapse chain presented, was *seemingly irrelevant choices* (SICs). These are poor decisions that superficially appear innocuous but actually raise the probability of getting into a situation where control with respect to driving may be lost; in other words a high-risk situation. Problem solving in order to develop alternatives and developing awareness of the cognitive distortions that accompany SICs are seen as being ways of reducing the probability of a HRS developing.

*Unexpected Situations* were presented as a further pathway that exposed the participant to HRSs without warning. An example of this would be when a friend who offered the chance to drive a car unexpectedly visited a participant. Assertiveness, escaping the situation and other strategies used in HRSs were presented as means of dealing with unexpected situations.

A *High Risk Situation* (HRS), where individual's sense of control over driving related behaviour is threatened was, for example, being asked to drive a friend to work. High-risk situations may refer to external situations, such as being in a car with the keys in the ignition, or to internal states such as feeling anxious, angry, or depressed. In these situations the urge to offend may be experienced as overpowering.

Associated with the HRS is the *problem of immediate gratification* (PIG). This phenomenon essentially overvalues short-term gain (e.g., tension



reduction, avoiding an argument with a partner or the thrill of driving) at the expense of the long-term negative consequences of engaging in the activity. The PIG is almost certain to occur during the HRS and serves to drive the relapse process onwards. Coping skills for the PIG include cognitive restructuring through recognising the PIG as normal and that the urge will pass, using a decision grid to become aware of the positive and negative aspects of driving (both short and long term), distraction, and finding alternative appropriate activities.

The next component of the chain is the *lapse*, that is the immediate precursors to offending, for example getting into the car and turning the key. This is not actually driving the car, and therefore not an illegal act, but it clearly violates the abstinence rule held by a disqualified driver restraining his driving related behaviour. Similarly, moving into the driving seat would violate abstinence rules. The reaction to these violations, the abstinence violation effect (AVE) involves both cognitions concerning cause and, typically negative, affective states, the intensity and type of which determines the probability of relapse. In other words the AVE serves to mediate the transition between the lapse and the relapse. This definition of a lapse is different from the traditional definition provided by Marlatt. Usually, the lapse is treated as the first instance of the undesired activity, for example the first puff on a cigarette for smokers. As such, the lapse is seen positively, as an opportunity to learn about risk factors and their control. The changed definition of the lapse is analogous to that used with sex offenders (Pithers, Marques, Gibat, & Marlatt, 1983; Ward & Hudson, 1996) in that the lapse is moved backwards in the temporal sequence in order to avoid the illegal behaviour inherent in the traditional definition. A relapse, in this version, becomes the first instance of the illegal behaviour, rather than a return to baseline levels.

If, at this point in the chain, the person believes they are unlikely to ever be able to control their driving related behaviour, it is likely they will experience shame and abandon any attempt to further control their behaviour. This results in a relapse and a return to the problematic behaviour without further attempts at restraint, that is a return to driving while disqualified. Ironically, continuing to drive may be a way of coping with the negative affect generated by the lapse. Alternatively, viewing the lapse as the result of controllable processes, such as insufficient effort or momentary decrease in vigilance, leads to guilt and increased motivation for restraint. Coping skills for the lapse include learning to manage the

negative cognitions and affect that are part of the AVE, escaping from the HRS before a lapse occurs, finding a positive distraction, developing a lapse reminder card which includes specific instructions about how to cope, and calling a support person.

In addition to learning strategies for dealing with the different stages of the relapse process, the participants were encouraged to identify their specific *offense precursors* (called “red flags” for the offenders). These are environmental, behavioural, cognitive, and affective markers that signal a person has begun to relapse. Of particular importance are indicators of lifestyle imbalance and covert decision making (seemingly irrelevant choices) that lead to high-risk situations.

The last element of the RP Module will be described later. In this component participants revisited their offense chain tailoring the skills they had learned to their offense chain through a workbook.

### **Cognitive Restructuring Module**

This module involved six sessions and was aimed at altering the cognitive distortions and attributions that function to maintain offending. In addition, this module aimed to facilitate a sense of personal responsibility for past offending and the avoidance of future offending by helping participants identify and change their cognitions and particularly attributions about driving behaviour. It was also used as a means of building motivation towards full engagement in the programme. The module content was derived from the description of treatment provided in Marlatt and Gordon (1986). The module also provided the opportunity to review the specific offense chains developed by participants in the initial RP overview sessions.

Offenders frequently deny aspects of the charges against them despite evidence to the contrary. Minimisation of their responsibility and of the extent of their offending, shifting the blame to others or to external factors out of their control, are common distortions. For example, group participants frequently stated that their partners were not good enough drivers to be allowed to drive, or that it was raining and they had to pick up the children from school. They also tended to see disqualified driving as a minor, and hence insignificant, offense. Four types of cognitive distortions are introduced to the offenders: minimisation, denial, projection

and rationalisation. Small groups of offenders are required to act out the four types of distortions to ensure that the concept is understood.

Cognitive distortions also tend to minimise motivation to change by insulating the offender from the veridical situation, and therefore it was considered important to confront and restructure this type of thinking. The group was encouraged to challenge each person's distorted thinking when they presented their own offense "story". These stories were originally written by the offender and during the session were used to elicit the cognitive distortions and beliefs surrounding the individual's offending. The therapists encouraged detail, identified, challenged and corrected distortions, questioned the usefulness of beliefs in terms of maintaining safety, provided alternative explanations for events, rewarded honest disclosure and the appropriate expression of emotion, and encouraged group participation in the identification and challenging of distortions. Such challenging was maintained throughout the course. The intensity of such focus also provides an opportunity for offenders to practice social skills such as assertiveness. For example, participants are encouraged to use "I" statements when confronting statements that indicate distortions. Offenders are given an opportunity to debrief after their session in the "hot seat" by feeding back any concerns they have. This provides them an opportunity to practice non-violent conflict resolution. Group participants are reminded of such issues when the specific social skills modules are conducted.

This type of module is common in the sex offender treatment programmes that employ RP. DWD drivers were hypothesised to be habitual offenders with relatively little awareness of the cognitive processes involved in their offending. Cognitive distortions were anticipated as being important as means by which offenders continued to offend and, while the specific distortions were anticipated as being unique to driving offenders, the underlying principles were considered to be similar to other New Zealand offenders. The cognitive restructuring module was therefore based on a similar module that was used successfully in an RP programme for New Zealand sex offenders (Marshall et al., 1991).

In the example of *S* given earlier several distortions are apparent; the minimisation of risk, both in terms of detection and once detected, and of attributing blame to external forces such as luck. His initial reason for driving to a friend's place, ostensibly to deliver something, is a further example of such distortions.

## Anger Management Module

Difficulty managing anger has been identified as a major issue for some groups of driving offenders (Donovan & Marlatt, 1982). These four sessions were based upon a treatment package developed by the Psychological Services of the Department of Justice (Scriven, 1993), which utilised video clips as well as a structured treatment approach. A range of techniques have been employed in the treatment of anger and aggression. Cognitive treatments where the goal of treatment is to modify cognitions so that the individual will not experience anger have been successful with anxiety disorders and have been applied to anger (Meichenbaum, 1975). Skills training was also used with the purpose of addressing interpersonal skills deficits (e.g., lack of assertiveness, lack of pro-social skills and lack of ability to problem solve) that may prevent people effectively dealing with different situations (e.g., D’Zurilla & Goldfried, 1971). The major treatment approach used in the treatment of anger and aggression involves combining all of the above approaches (e.g., Goldstein, 1988; Novaco, 1977). Donovan and Marlatt considered that their offenders lacked coping skills including an inability to manage anger.

The VAMP treatment of anger also utilises a range of intervention strategies. The reason that this particular model of anger management was used rather than the Novaco stress inoculation approach (Novaco & Welsh, 1989) or Goldstein’s Aggression Replacement Training (ART), stemmed from the view that the approaches were substantially similar (i.e., based on a multicomponent approach and used social skills, relaxation, cognitive restructuring, and problem solving). In addition Goldstein’s ART, had mostly been used with adolescent samples of offenders. The VAMP was specifically designed for NZ offenders and had taken cognisance of the cultural diversity in the NZ offender population in the presentation of techniques presented in the video clips. The Scriven package had the distinct advantage of being developed for New Zealand offenders and has been evaluated by Tie (1998) who found that offenders treated using this package had reduced frequency and severity of reconviction compared to a matched control group.

The Video Anger Management package included skills training and adopted an approach that was compatible with the RP principles that underlay the entire DWD intervention. Specifically, anger was seen as a cycle that progressed through a series of steps that involved cognitions, mood and environmental factors.

As such it closely resembled the offense process which offenders had already learned. The emphasis on monitoring thoughts, affect and environmental factors as cues to help identify when anger was escalating, also paralleled the general RP framework. A further similarity was the use of coping skills to avoid further escalation. In this way the anger intervention could further reinforce the RP principles learned. The other components of the anger management package, assertiveness training, problem solving, communications skills formed the core of the other DOT programme modules providing a cohesive and compatible structure between the component modules and the overall RP framework.

In these sessions anger was described as a legitimate and genuine emotional state; it is not wrong to feel angry, but it is problematic to either repress anger without attempting to resolve it, or allow it to escalate into an aggressive act. The module covered topics such as learning to recognise signs of anger and how anger relates to violence, and the role of cognitions in anger. Participants were taught to use an anger journal, to cope with provocation by controlling "self-talk" and irrational attributions, to express anger assertively, and to relax using progressive muscle tension relaxation and visualisation. They were also instructed in the use of time out<sup>13</sup>. A range of methods were used to facilitate the acquisition of these skills such as behavioural rehearsal, role-playing, games, and the use of video clips which focused on some aspect of anger.

S's relationship suffered from his anger problems and inability to deal constructively with situations of conflict in any constructive manner. He had previously been violent in such situations and his driving was a way for him of avoiding situations in which he would previously have been violent.

### **Social Skills Module**

Research investigating the personality and behavioural characteristics of driving offenders has identified assertion and self-regulatory deficits as important offense related variables (Donovan, 1989; Donovan & Marlatt, 1982). From a relapse prevention perspective offenders may use their driving behaviour as a means of coping with relationship problems. For example, attempting to avoid

---

<sup>13</sup> Some aspects of the Video Anger Management Package repeat components of the other modules. They were therefore dropped from this implementation of the VAMP.

interpersonal conflict by driving, or driving when feeling angry towards a partner. Hence four sessions were devoted to the development of communication skills as a more adaptive coping strategy. Effective communication may reduce negative affect and interpersonal stress and, as a consequence, reduce the chances of driving while disqualified. In addition, assertive communication was made a specific focus of these sessions as this was found to be a particular problem in the pilot groups. Offenders were provided instruction in, and practised, the use of "I" statements to express their viewpoints rather than using more aggressive, or passive, means of communicating. Other topics covered were verbal and non-verbal behaviour, active listening, and greetings. Extensive role-playing was used as a part of the module with homework exercises at the completion of each session.

*S* clearly had relationship problems and could not communicate effectively with his partner. When difficulties arose he would become angry and withdrawn. The negative affect produced during such altercations made him vulnerable to wanting to drive.

### **Problem Solving Module**

Driving offenders, in common with other offenders, tend to have few problem solving skills and often react impulsively to daily situations. From a relapse prevention perspective driving while disqualified can represent a maladaptive attempt to cope with various problems of living or fail to adequately consider alternatives before entering high risk situations. For example, rather than resolve conflict by constructively discussing a problem and seeking a solution, many offenders use driving as a way of dealing with their negative affect and/or avoiding further conflict. Alternatively, offenders may enter high risk situations without preparing alternative strategies or considering the consequences of doing so. Therefore the major aim of the six sessions in this module is to teach the necessary problem solving skills to cope more adaptively with the inevitable difficulties of day-to-day living and the threats to abstinence that will inevitably occur.

We outlined a problem-solving model that breaks the task of effective problem detection and solution into a number of discrete steps. An acronym, "SOLVE" (State the problem clearly, Outline the details, List the alternatives, View options, Evaluate outcomes) was used to prompt the specific steps in the problem

solving process. In order to facilitate the learning of these skills group participants choose a current life problem and brought it to the group. Each of the different phases of the problem solving process were practised and explored in these group sessions. This provided each man with the opportunity to receive extensive feedback from the therapists as well as the other group members.

There were several problems that were of concern to *S*. Lifestyle imbalance due to a lack of alternative pleasurable events required innovative solutions given the lack of finance. *S*'s solution was to use a park fitness track close to his house as an alternative pleasant event. His solution for a lack of employment involved some additional study to, first of all, complete his disqualification and apply for a heavy trades license so that he could get work with a relative. He was subsequently able to do this.

### **The Relapse Prevention Module- Part 2**

As described earlier the RP module was concluded at the end of treatment to reinforce the skills learned and to apply them specifically to the offense chains developed by the offenders. These strategies were therefore reinforced and integrated into the relapse cycle for each participant. This module allowed the development of specific and unique relapse prevention plans and personalised the skills and information developed in earlier modules. Frequently offenders were unaware of these factors at the beginning of treatment, however once the pattern was identified and coping strategies learned, were able to effectively develop contingency plans and intervention strategies to stop a relapse from occurring.

At biweekly intervals participants were questioned whether they were continuing to drive. The majority of group participants reported that they did continue to drive (often to the programme) although, as the programme taught skills and tackled the behaviour in terms of the relapse chain, they reported that they stopped driving and found other forms of transport. The level of trust within the group may have prevented some disclosure but, the large proportion of participants prepared to acknowledge continued driving highlights the level of trust and commitment to the treatment process. This approach to relapse as a learning experience that can inform future efforts at abstinence is a major advantage of the relapse prevention approach.

The participants were required to complete a workbook during this period, which required them to apply the Relapse Prevention model specifically to their offending. This workbook helped offenders develop a personal relapse plan. They were required to identify the specific lifestyle imbalances, cognitive distortions, SICs and HRS, that formed their chain of offending and to list the necessary coping skills they had acquired at each point in the chain. This also involved writing out cue cards, which offenders were encouraged to carry with them, of what to do when confronted by situations that threatened abstinence.

### **Sundry Sessions**

In addition to these modules two sessions were provided giving information about drug and alcohol abuse and its link with driving offending. While alcohol was not the predominant cause of offending for the group participants, experience had shown that a majority of offenders had drug and alcohol abuse problems that could put abstinence from driving at risk. Representatives from a drug and alcohol counselling service led discussion about the impact of substances upon lifestyle and abstinence.

In addition two sessions involved participants bringing with them their significant others who would act as support people for them when the programme was completed. The importance of such relationships on relapse prevention has been well-documented (DeJong, 1994; Laws, 1989; Marlatt & Gordon, 1991). These “visitors” sessions focussed on what factors led to the participant’s offending and how the support people could help implement the relapse plan developed as part of treatment. Where there was an issue related to offending and the relationship with the support person (e.g., if the person was a partner), referral for relationship counselling was offered. These “visitor” sessions provided an opportunity for the support people to air their concerns about the changes occurring for the participant but in practice commonly resulted in positive comments about participants’ change and progress.

### **Maintenance Sessions**

All group participants were required to attend maintenance sessions after the completion of the treatment programme as part of their parole (for those in



prison), or supervision (those in the community), conditions. Failure to do so was considered sufficient to return the offender to court. The maintenance sessions were biweekly for the first month and monthly from then on. The issues confronting participants that posed a risk of relapse were used to reinforce the coping strategies and skills learned during the group. Participants were challenged about their adherence to their relapse plans and, where necessary, modifications were made. The same principles and methods employed during the treatment process were used to reinforce skills during the maintenance phase (e.g., role-plays and group problem solving).

### **Manual Development and Staff Training**

was able to review the group session, chosen at random from the previous week's sessions, and go over any deviations from the manual or provide additional coaching for facilitators in either their management of the issues that arose. To ensure that all treatment was delivered in a standardised fashion and that facilitators maintained treatment integrity over time a manual was developed. The key features of the manual were that it contained detailed notes on the content and the specific learning objectives of each session. Tasks that the participants were required to do during each sessions were also included as well as handout material. The facilitators discussed each session before participants arrived with delineation of responsibilities each had during the session. Generally one facilitator introduced material and the other observed participants providing additional information if process issues arose (e.g., arguing over content, not observing group rules). These roles were swapped during the session several times to ensure that the facilitators did not get tired and to provide additional variety of presentation style to increase participants' attentiveness.

To ensure that the material presented was accurate, presented in a manner suitable for the learning style and literacy level of the participants and to ensure that process issues were being managed in a way that facilitated group learning, each week during supervision a videotape was viewed by the supervisor. Supervision is a crucial mechanism for ongoing development of skills and maintenance of treatment quality. The supervisor or presentation of material. The

same supervisor provided supervision for both sets of facilitators also providing a check on any differences that might possibly arise between the groups.

The manual was one means of maintaining treatment integrity another was to ensure that the facilitators were provided with initial training in group skills. As two of the facilitators were clinical psychology students and the other two were probation officers there were different strengths and learning needs brought to the role. The clinical students were well versed in the treatment concepts and material but were unfamiliar with the skills necessary to relate to offenders. The reverse was true of the probation officers; this was a major reason for pairing a probation officer with a clinical psychology student. The manual was provided with additional background reading before the programme began. To ensure that the evaluation of the programme was not affected by a lack of facilitation skills the first group run by each pair was used as a “dry run” or pilot of both the treatment programme and the facilitators. By the end of the first 10 week groups the facilitators were considerably more comfortable with the treatment material and had developed good group skills. The opportunity for supervision of their efforts enabled the facilitators to achieve a sufficient quality standard to satisfy the supervisor that treatment quality would not be a factor in the effectiveness of the programme evaluation.

### **Evaluation Method**

#### **Participants**

In the prison, Unit Managers made referrals of driving offenders in the three months before their parole eligibility date. Community participants were referred by probation officers if already sentenced to Supervision. Other community participants were sentenced with conditions to attend the programme. Referrals were assessed before acceptance to the programme.

The control group was selected from a historical database of traffic offenders and were matched on the basis of a number of characteristics considered to have a relationship to reconviction (Bakker, O'Malley, & Riley, 1996). These characteristics were: age, ethnicity, gender, number of previous DWD offenses, number of previous DWI offenses, number of criminal convictions, length of disqualification and number of previous imprisonments. For the control group, offenders who matched individual treatment participants, were randomly selected.

## **Follow up**

The treated participants were followed up for different lengths of time ranging from three years post treatment to 1 month for the last group (mean = 405 days, SD = 309 days). The time to re-offending was ascertained for re-offenders to a subsequent DWD, DUI or criminal conviction and was corrected for any time spent in custody. Those who had no further offenses had times calculated to the date of follow up. Official criminal histories were used to determine re-offending rather than relying on self report (not available for the control group) or arrest records (arrests might not lead to conviction).

## **Pre and Post Treatment Measures**

Participants completed a battery of self-report tests during the assessment phase of the programme. Four of these tests were readministered during the last week of the treatment programme. To determine whether the change over this period could reasonably be attributed to the treatment programme, 30 incarcerated driving offenders, who were not treatment participants, were tested and then retested after nine weeks. This group acted as a control for change over time. The pre and post measures were analysed using repeated measures multiple analysis of variance<sup>14</sup>.

---

<sup>14</sup> The criminal and traffic history information was not available for this group so that differences between this control group and the experimental group on such factors as age, number of convictions etc. could not be controlled for.

## Chapter 7 - Results

### Participants

In total 144 offenders, 120 from the community and 24 from prison made up the treatment group. All the participants were male and ranged in age from 18 to 56 years ( $X = 29.3$  years,  $SD = 7.8$  years). Their average number of previous DWD convictions was 7.1 ( $SD = 5.23$ ), DUI (known as EBA in New Zealand for excess blood/breath alcohol) convictions was 3.4 ( $SD = 2.9$ ) and criminal convictions was 7.9 ( $SD = 9.2$ ). There were 87 Caucasian, 43 Maori, 3 Pacific Peoples and 11 other (10 non-specified and 1 Indian) group members. During the programme 14 people (9.7%) either dropped out or were asked to leave with the proportion of prison and community drop outs equivalent. The average amount of attendance for these people was 11.9 sessions ( $SD = 7.6$ ) out of the possible 36 sessions. While there are arguments for and against inclusion of dropouts in the analysis, separate analyses have been conducted resulting in similar outcomes in all but one case and as such only the more conservative analyses including the dropouts will be reported here. The attendance rate for the remaining participants was 33.25 (92.4%) sessions on average ( $SD = 2.9$ ) with 31% attending all sessions.

### Control Group

The 144 member control group was selected from all men with traffic offenses who had committed a DWD offense in 1990. The traffic offense history was extracted from the computer in November 1996 thus allowing for up to a six year follow up period to determine the reconviction rates for the control group and was matched for age, race, number of previous disqualified driving offenses, excess breath/blood alcohol offenses and criminal convictions. Statistical tests between the control and treatment groups indicated no significant differences; Table 3 provides the means, standard deviations and result of a multiple analysis of variance with the two groups as the independent variable. As can be seen from Table 3, the groups do not significantly differ on any of the matching variables. The length of disqualification was added as a control variable to ensure that the treatment group did not have a shorter time to wait before being eligible to regain their license (in fact for both groups over 45% had indefinite disqualifications and were removed from this

comparison). The Wilkes' Lambda multivariate statistic for group (treatment vs. control) was not significant ( $F = 1.21$ ,  $p > .05$ ).

Table 3

*Descriptive Statistics for Control and Treatment groups*

Matching Variable	Manova Result		Mean		Std Dev.	
	<i>F</i> – value	<i>P</i> - value	DOT	CONT.	DOT	CONT.
Age	.723	.400	29.31	29.25	7.77	7.68
Length of Disq.	.221	.643	628.1	595.3	347.8	478.6
Prev. DWD	.019	.860	7.11	6.37	5.23	4.21
Prev. EBA	.105	.742	3.36	3.04	2.94	2.24
Prev. Crime	.027	.848	7.9	6.73	9.33	9.35

### Recidivism Measures

At the end of the follow up time 41 (28%) of the 144 participants had been subsequently reconvicted of further disqualified driving offenses. The time to reconviction available for the treatment group was shorter than for the control group as the longest period post treatment was three years. Because of the different lengths of follow up between the control and treatment groups, the finding that 105 of the 144 controls (73%) obtained further DWD convictions with an average inter-conviction time of 430 days ( $SD = 452$ ) would be a misleading comparison as the treatment participants have had less opportunity to be convicted for further offending. Therefore, survival analyses (Kleinbaum, 1998) were conducted comparing the treatment and control groups on time to first DWD, first DUI and first criminal conviction. Survival analysis separates the follow up time into intervals and uses a hazard function to calculate the proportion of individuals within each interval who “died” compared with those who entered the interval. This is performed for each group resulting in a life table that can be tested with non-parametric tests of significance, comparing the average survival time of the two groups. The cumulative proportions can then be plotted for each measure; this has been done for time to first DWD (Figure 9), DUI (Figure 10) and criminal conviction (Figures 11 & 12). The

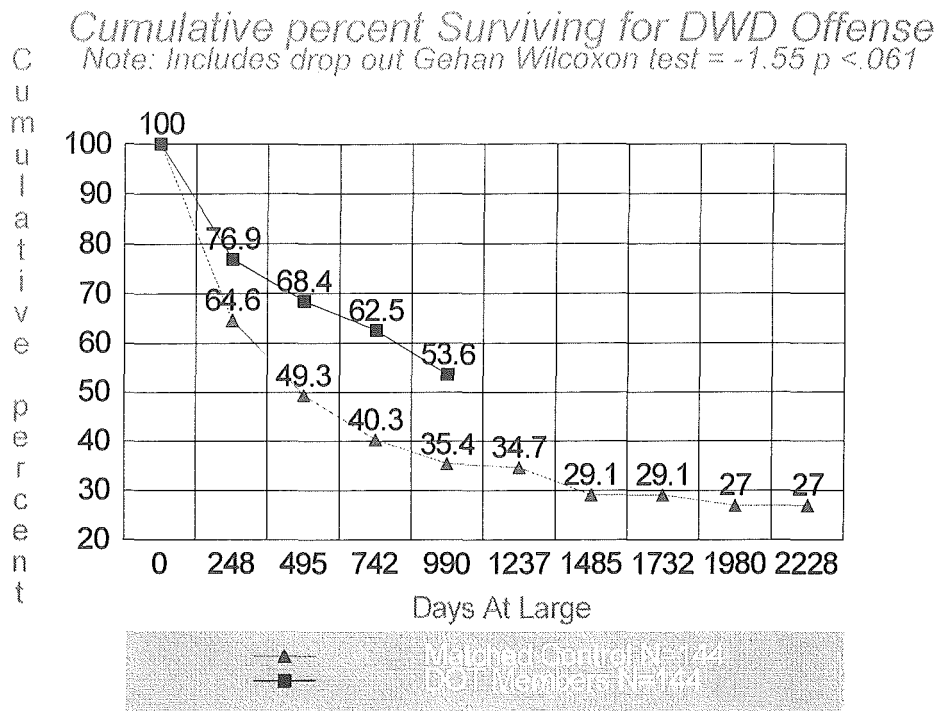


Figure 9. Cumulative Percent Surviving for Driving While Disqualified Offense.

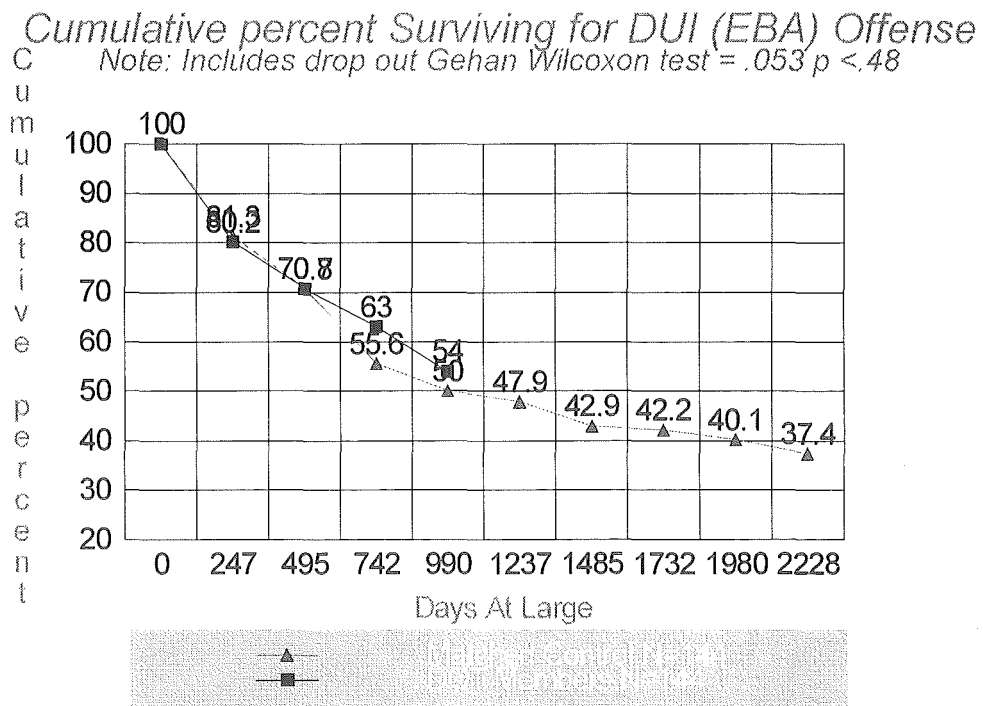


Figure 10. Cumulative Percent Surviving for an Excess Breath Alcohol Offense.

### Cumulative percent Surviving for Any Criminal Offense

Note: Includes drop outs Gehan Wilcoxon test = -1.55  $p < .061$

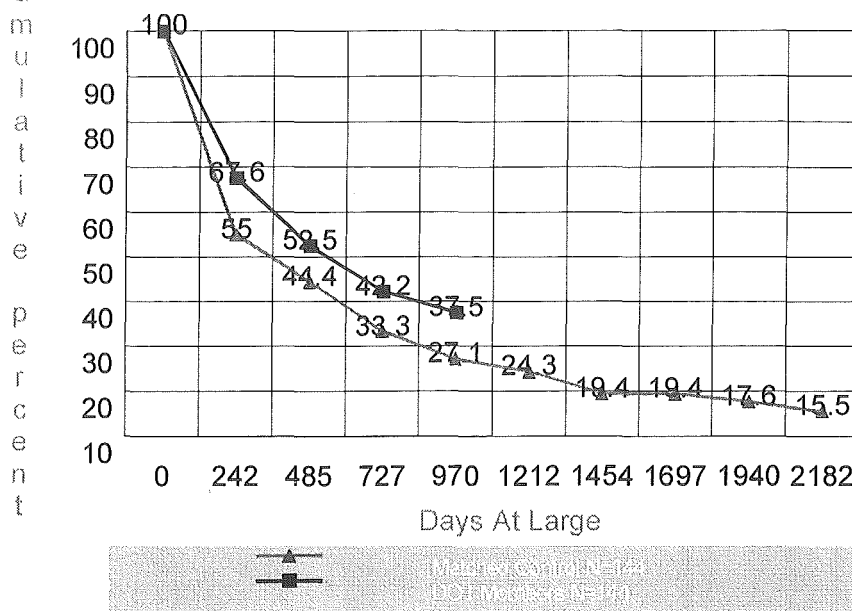


Figure 11. Cumulative Percent Surviving for any Criminal Offense. Groups include dropouts.

### Cumulative percent Surviving for Any Criminal Offense

Note: Excludes drop outs Gehan's Wilcoxon = -2.16,  $p < .015$

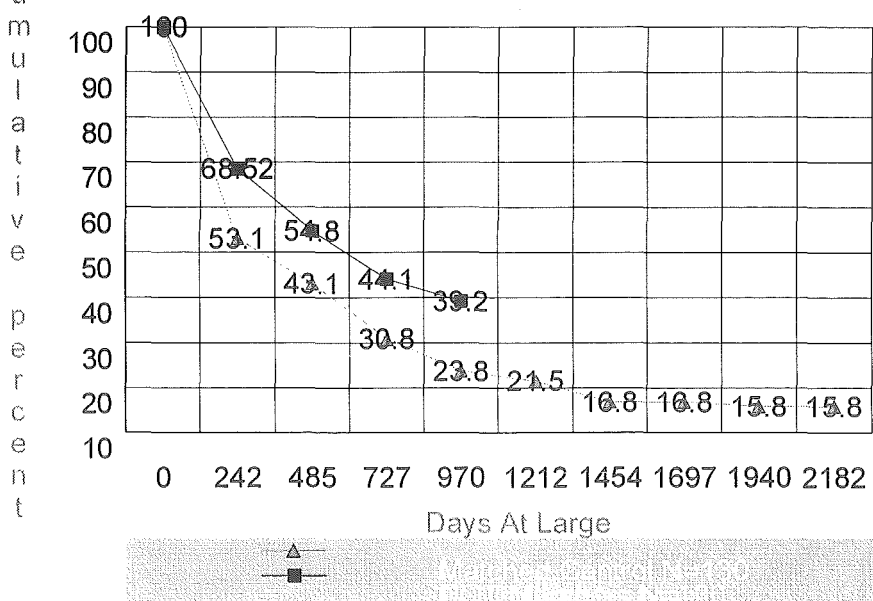


Figure 12. Cumulative Percent Surviving for any Criminal Offense. Excludes dropouts from both groups.

Gehan's Wilcoxon Test has been reported for each indicating the significance of any differences in survival time between the two groups. Figures 11 and 12 both relate to subsequent criminal convictions but differ in that Figure 11 includes dropouts while Figure 12 does not. For the other two analyses (DWD & DUI) the absence of dropouts did not affect the results; the DWD remained significant and the DUI remained non-significant. The inclusion of dropouts provides a more robust test of treatment effect so has been preferred.

The results indicate that the time to first subsequent DWD offense for the treatment group is significantly longer, but not for DUI or criminal offenses. While there is a clear separation between the treatment and control groups for criminal offenses when drop outs are included, this just fails to reach the .05 level of significance ( $p = .06$ ). When dropouts were excluded the Gehan Wilcoxon statistic was significantly different ( $WC = -2.16, p = .015$ ). This suggests that treatment has had a modest impact on criminal offending as well as DWD.

### **Regression Analysis using Survival Analysis**

In addition to simple comparisons of two groups, survival analysis also enables regression models to be fitted to determine the influence of independent variables such as age, treatment setting (prison vs. community) and race on the relative survival of the two groups. Analyses for each of the survival curves were conducted using age, treatment setting (prison vs. community), ethnicity, number of previous DWD, DUI and criminal convictions. This resulted in no significant changes in the log likelihoods of the regression analyses for either the time to first DWD or DUI offense. Age was a significant independent variable for survival time to criminal reconviction with older offenders having longer survival times ( $\chi^2 = 22.57, p < .001$ ). This indicates that apart from age affecting criminal reconviction the treatment for disqualified driving was effective regardless of prior offending history, treatment setting or age.

The programme aimed to treat disqualified driving rather than alcohol related driving, but a number of offenders in both groups re-offended for alcohol related driving (39 for the treatment group and 87 for the comparison group). The majority of these alcohol related re-offenders had also been convicted of DWD offenses; 35 of the 41 treated participants who were reconvicted for DWD had



alcohol related driving re-convictions (85%) whereas 75 of the 105 comparison group members reconvicted for DWD offenses (72%) had DUI re-convictions. Some (4 of the treatment group and 12 of the comparison group) had completed their revocation period. This means that the proportion of DWD only treatment group reconvictions has been reduced compared to the comparison group; for instance, if the treatment had affected DWD and alcohol related offending process equally, then the proportion should have been the same. When DUI re-convictions are added as a dummy independent variable (0 if present 1 if absent) to the regression model for survival time to DWD, failure times for a DWD offense are related to the presence of alcohol related driving,  $X^2 = 80.8, p < .00001$ . This supports the conclusion that the programme has successfully treated DWD compared to a matched comparison group but has not affected alcohol related driving.

A further analysis was conducted utilising criminal reconviction as an independent variable for the regression analysis. This resulted in a  $X^2$  of 11.2 ( $p < .001$ ) and indicates that while past criminal offending as measured by number of previous convictions is not related to DWD failure, subsequent criminal convictions are. It would seem therefore, that those who have re-offended in one area (e.g., DUI) have also tended to offend in terms of general criminal offending. This suggests that the programme has been able to address a broad range of problematic behaviours that result in offending with the exception of alcohol related offenses.

### Treatment Setting

The survival analyses listed above included terms for the treatment setting to see whether this was significantly related to survival. The results of the analysis are provided in Table 4. The results show that ethnicity, age at conviction and the treatment setting have not affected the survival of the treatment participants.

Table 4

*Cox Proportional Hazard Survival Analysis For Setting (Community vs. Prison)*

Variable	B	S.E.	Wald	df	Sig	R	Exp (B)
RACENUM			.0886	3	.9932	.0000	
RACENUM (1)	.1864	.7410	.0633	1	.8014	.0000	1.2049
RACENUM (2)	.2247	.7637	.0866	1	.7686	.0000	1.2519
RACENUM (3)	-10.8218	314.6015	.0012	1	.9726	.0000	.0001
AGECON	-.0253	.0224	1.2749	1	.2588	.0000	.9750
REFAG	.1071	.3937	.0740	1	.7856	.0000	1.1130

### **Pre and Post Test Measures**

In addition to these measures of relapse, self-report questionnaires were given pre and post treatment to assess change on a variety of measures. Multiple analyses of variance were used to compare the prison based groups with the community based groups with regard to changes from pre to post test on the psychometric measures; main effects for treatment setting were not significant. Results are reported for the significant pre and post test comparisons for the treatment participants in Table 5. Such tests were not possible for the matched control group as they were selected from official criminal records and had therefore not completed the tests.

### **Psychometric Scale Statistics**

The questionnaires employed were the Simple Rathus Assertiveness Schedule (SRAS), the State Trait Anxiety Inventory (STAI), the State Trait Anger Expression Inventory (STAXI), the AUDIT and the Driving Offender Treatment (DOT) scale.

The numbers given the questionnaires varied due to absences on the days when testing occurred through sickness or drop outs. Table 5 indicates the Trait scale of the STAI, the Anger Expression Out scale on the STAXI, and the DOT scale measured significant pre to post treatment change in the expected direction. To determine the comparisons between groups a repeated measures MANOVA was used to control for the influence of repeated significance tests

Table 5

*Basic Statistics for Uni-variate Significance Tests using Repeated Measures MANOVA for Pre to Post Comparisons of Psychometrics for Treatment Group*

Test	Mean Pre	SD Pre	Mean Post	SD Post	F value	p value	n
SRAS	131.6	24.4	137.2	20.3	2.24	.135	52
DOT	153.7	23.59	166.6	25.5	12.78	.0004	93
STAI 1 (State Anxiety)	36.6	9.9	35.7	11.0	.595	.448	91
STAI 2 (Trait Anxiety)	41.6	9.4	39.4	10.0	7.03	.009	89
STAXI 1 (State Anger)	13.0	5.3	13.1	5.2	.193	.665	95
STAXI 2 (Trait Anger)	19.4	5.7	18.9	5.0	1.06	.304	95
STAXI 3 (Anger Expression Out)	16.5	4.1	16.6	3.6	.192	.666	95
STAXI 4 (Anger Expression In)	17.7	4.2	16.8	3.7	6.85	.001	95
STAXI 5 (Anger Expression Control)	20.8	5.1	20.7	5.2	.295	.594	95
Audit <sup>15</sup>	14.5	9.47					56

leading to type 1 errors resulting from using ANOVAs to test significance. The number of missing values in some of the test scores resulted in substantial data shrinkage due to case wise deletion in the MANOVA; to counter this, missing values were replaced by mean values. The Wilkes' Lambda multivariate statistic for group (pre vs. post test) was significant ( $F = 4.019$ ,  $p < .05$ ) indicating significant change from pre to post test. The uni-variate tests for the scales are presented in Table 6. Using the process of substituting missing values by means has resulted in changes in the significance for the Rathus assertiveness questionnaire (now below the .05 level of significance) and the Trait scale of the STAI (now above the .05 level of significance).

The second analysis using the MANOVA reinforces the pre to post treatment changes on the Anger Expression In scale of the STAXI and the DOT scale but casts some doubt on the Rathus and Trait scale of the STAI as measuring change given the results of the first analysis.

---

<sup>15</sup> Only given at pretest.

Table 6

*Results of Univariate MANOVA Tests*

Measure		Type III Sum of Squares	df	Mean Square	F	Sig.
RATHUS	Greenhouse-Geisser	591.136	1	591.136	4.646	.036
STAI1 (State Anxiety)	Greenhouse-Geisser	31.645	1	31.645	.584	.448
STAI2 (Trait Anxiety)	Greenhouse-Geisser	135.309	1	135.309	3.860	.055
STAXI1 (State Anger)	Greenhouse-Geisser	13.827	1	13.827	.610	.438
STAXI2 (Trait Anger)	Greenhouse-Geisser	3.636E-02	1	.004	.002	.962
STAXI3 (Anger Expression Out)	Greenhouse-Geisser	10.509	1	10.509	1.386	.244
STAXI4 (Anger Expression In)	Greenhouse-Geisser	45.827	1	45.827	5.159	.027
STAXI5 (Anger Expression Control)	Greenhouse-Geisser	.145	1	.145	.010	.920
DOT	Greenhouse-Geisser	3250.945	1	3250.945	16.232	.000

**Psychometric Control Group Scale Comparisons**

To further determine the significance of change, a control group of men with driving while disqualified convictions was obtained from a prison population and tested using the psychometrics at the same interval as the DOT participants. The impact of time alone, that is test-retest reliability, upon the psychometric results could then be determined. A two way repeated measures MANOVA was used to test the differences between the control and treatment groups. The results of this are presented in the table (Table 7) below. The multivariate test of significance was not significant for the repeated measures factor, the treatment group variable or the treatment setting variable (See Table 7).

Once again, averages were used for missing values. The interaction effect of the DOT scale is the only significant scale that remains when the repeated measures Table 7

*Repeated Measures MANOVAs for Psychometric Scales for Treatment and Psychometric Control Groups*

		Wilkes' Lambda	F	df Hypo	df Error	p value
Between Subjects	Treatment Group	0.963	0.58	8	120	0.793
	Treatment Setting	0.947	0.833	8	120	0.576
Within Subjects	Rept Factor *Trt Setting	0.932	1.099	8	120	0.369
	Rept Factor *Trt Group	0.904	1.595	8	120	0.133

Tests of Within-Subjects Contrasts

Source	Measure	FACTOR1	Type III Sum of Squares	df	Mean Square	F	Sig.
Rept Factor	STAI1	Linear	93.90	1.00	93.90	1.75	0.19
	STAI2	Linear	266.57	1.00	266.57	6.79	0.01
	STAXI1	Linear	5.00	1.00	5.00	0.26	0.61
	STAXI2	Linear	19.42	1.00	19.42	1.27	0.26
	STAXI3	Linear	0.04	1.00	0.04	0.00	0.95
	STAXI4	Linear	27.16	1.00	27.16	3.00	0.09
	STAXI5	Linear	29.07	1.00	29.07	2.35	0.13
	DOT	Linear	2568.56	1.00	2568.56	8.80	0.00
Rept Factor * Trt Setting	STAI1	Linear	130.03	1.00	130.03	2.42	0.12
	STAI2	Linear	9.75	1.00	9.75	0.25	0.62
	STAXI1	Linear	0.68	1.00	0.68	0.04	0.85
	STAXI2	Linear	13.55	1.00	13.55	0.89	0.35
	STAXI3	Linear	1.43	1.00	1.43	0.15	0.70
	STAXI4	Linear	1.34	1.00	1.34	0.15	0.70
	STAXI5	Linear	0.04	1.00	0.04	0.00	0.95
	DOT	Linear	1033.08	1.00	1033.08	3.54	0.06
Rept Factor*Trt Group	STAI1	Linear	62.58	1.00	62.58	1.16	0.28
	STAI2	Linear	0.39	1.00	0.39	0.01	0.92
	STAXI1	Linear	8.80	1.00	8.80	0.46	0.50
	STAXI2	Linear	11.86	1.00	11.86	0.78	0.38
	STAXI3	Linear	2.54	1.00	2.54	0.27	0.60
	STAXI4	Linear	1.35	1.00	1.35	0.15	0.70
	STAXI5	Linear	21.24	1.00	21.24	1.72	0.19
	DOT	Linear	1756.23	1.00	1756.23	6.02	0.02

MANOVA is used. The trait scale of the STAI has shown a main effect for pre to post treatment effects but has not differed between groups (treatment and control groups) or treatment setting (prison vs. community). Specifically, interaction effects were expected between the group and the pre-post testing factors; where these have not occurred it is not possible to demonstrate treatment effects on these measures. The DOT scale results indicated that the treatment group changed pre to post more than the control group did. This is graphically represented in Figure 13 for the DOT scale.

The change in the DOT scores suggests that there has been a change in the desired direction for cognitive distortions. Specifically, the control group has continued to support cognitive distortions that relate to driving, as measured by the DOT scale, at the same level on both testing occasions. In contrast, the treatment

group has reduced their adherence to cognitive distortions, as measured by increases in DOT scale score, related to driving.

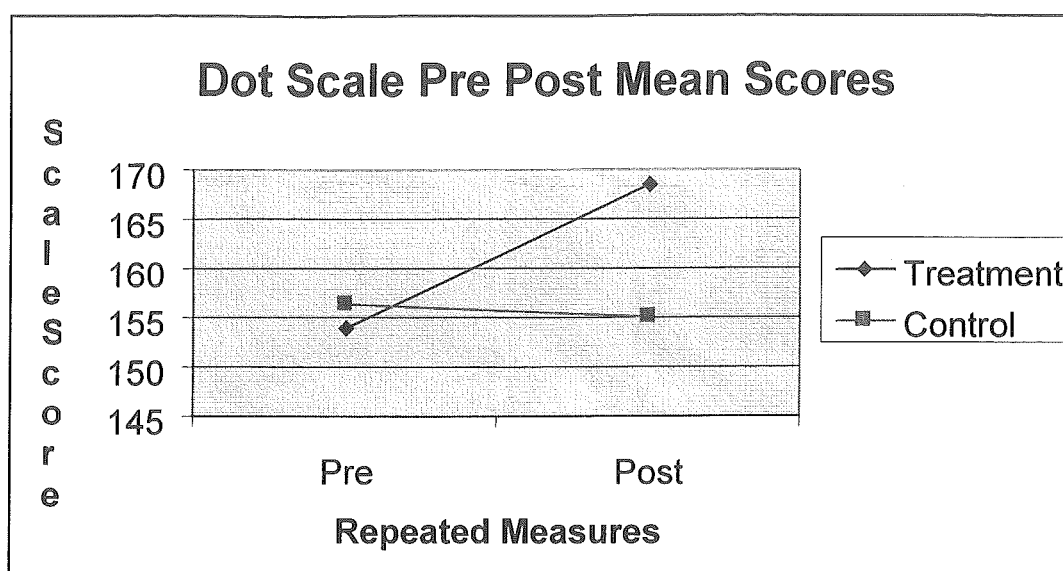


Figure 13. Repeated Measures Means for Pre and Post Test of the DOT scale.

Table 8

*Means and Standard Deviations of Treatment and Control Groups Pre and Post Psychometric Measures*

Test	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Pre	Pre	Post	Post	Pre	Pre	Post	Post
SRAS	131.6	24.4	137.2	20.3	128.6	17.4	127.8	18.0
DOT	153.7	23.59	166.6	25.5	156.2	20.8	157.0	20.9
STAI 1 (State Anxiety)	36.6	9.9	35.7	11	34.5	8.6	35.5	10.4
STAI 2 (Trait Anxiety)	41.6	9.4	39.4	10	39.6	9.3	36.2	9.8
STAXI 1 (State Anger)	13	5.3	13.1	5.2	12.3	3.6	13.2	7.0
STAXI 2 (Trait Anger)	19.4	5.7	18.9	5	16.6	5.2	18.3	5.7
STAXI 3 (Anger Expression Out)	16.5	4.1	16.6	3.6	15.1	4.0	15.7	4.4
STAXI 4 (Anger Expression In)	17.7	4.2	16.8	3.7	17.7	4.7	16.9	4.1
STAXI 5 (Anger Expression Control)	20.8	5.1	20.7	5.2	22.4	4.8	24.3	5.5
Audit	14.5	9.47			16	7.95		

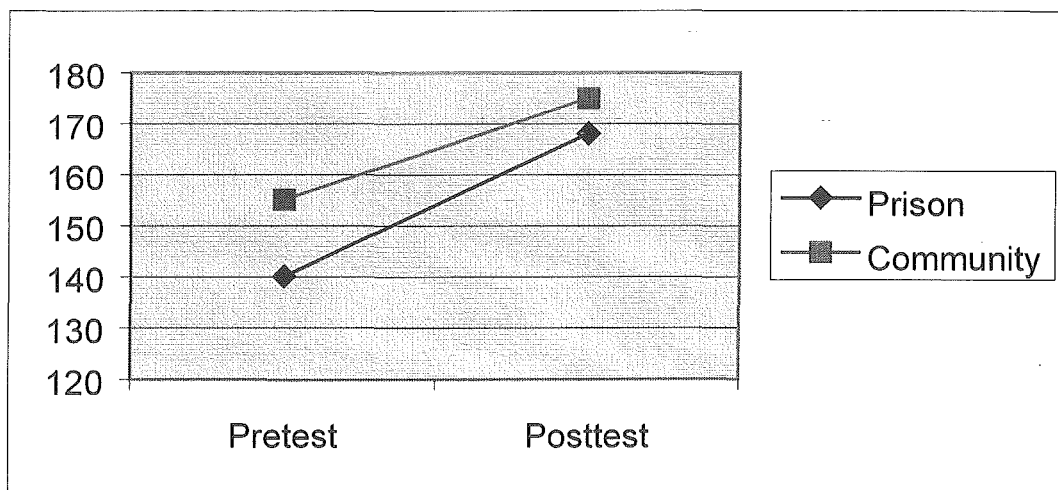
### Psychometric Scales and Treatment Setting

The MANOVAs in Tables 6 and 7 show that there is no significant effect ( $F = 3.54$ ) at the .05 level for treatment setting (prison vs. community).

However, the within subjects effect show that, for the DOT scale, this almost reached significance at the  $p = .05$  level having a  $p$  value of .06. This suggests that there may have been some differences between the two groups in terms of their adherence to

cognitive distortions that would be worth exploring further with larger numbers of participants in both groups. Figure 14 indicates that the prison group began with lower scores than the community group but that the scores post treatment were more similar.

The other scale to show significant effects in the analysis, the STAI trait scale, did so only for the repeated measures factor. This indicates that the groups (treatment and psychometric control group) changed from pre to post testing to a similar extent.



*Figure 14.* Means for Treatment Setting by Dot Score Pre and Post Treatment.

### **Treatment Integrity**

Because we sought to deliver the programme in a standardised manner, manuals were developed. To test whether the facilitators were remaining on task, each session was videotaped and one video randomly selected from each week for review. Time segments of 30 seconds every 15 minutes were used for scoring. Ratings were made independently by two experienced therapists of whether therapists were on task, dealing with process issues or off task. Ratings were then combined and the following results were obtained. Of 500 observations all but three were on task or dealing with process issues. The correlation in ratings for the two therapist coders was .99.

## Chapter 8 - Discussion

The results of the study demonstrate that a significant reduction in recidivism as measured by time to reconviction has occurred for the disqualified drivers treated using an RP based intervention when compared with a no treatment control group based on a matched group of men with DWD convictions. The difference in the survival curves suggests a reduction of approximately 18% when dropouts from treatment were included. In addition, a reduction of 10% in criminal offending was obtained when dropouts were excluded from the analysis. The psychometric measures used to assess pre to post treatment change suggested that there had been changes in anger control skills (as measured by the anger expression in scale of the STAXI), trait anxiety (as measured by the trait scale of the STAI) and driving related cognitive distortions (as measured by the DOT scale). However, when compared with a psychometric control group measured twice over a similar length of time, only the DOT scale was found to show a significant difference.

### The Effectiveness of Relapse Prevention for DWD drivers

The first hypothesis considered whether a relapse prevention treatment programme for drivers convicted of driving while disqualified could reduce reconviction – either by delaying or stopping further offending.

The results suggest that RP based treatment has been effective in reducing the number of men who committed further disqualified driving and to some extent the general criminal offending of participants. Survival analysis has shown that time to re-offending has been increased significantly and the number of men who have been re-convicted has also been reduced when compared to the control group of untreated drivers. The shape of the survival curves indicates that offending has not only been delayed, as shown by a shallower survival curve, but that the treatment group asymptote has been reached at a higher level than for the control group indicating that a larger number of men have stopped offending in the treatment group.

The results yielded by survival analyses indicate a statistically significant and clinically real change of post treatment driving offending behaviour; the 18% difference represents a difference of 26 men between the two groups. Given



the large number of DWD drivers that re-offend and receive sanctions such as imprisonment this difference is of clinical relevance. Specifically, the relapse prevention approach which used exposition of the offense process to integrate an understanding of the roles of stress, negative affect, cognitions and high risk antecedents to driving, with the acquisition of coping skills such as anger management, stress management and communication skills to adaptively cope, has been effective.

Also of note is that the addition of such independent variables as age, race, number of previous DWD, DUI and criminal convictions, whether treatment was prison or community based, did not significantly alter the regression analyses suggesting treatment was efficacious despite differences between participants on these variables. That is, because age and criminal history variables did not affect survival times, treatment for these 144 offenders was as effective for older offenders as for young offenders and in both community and prison settings. Finding that treatment is independent of age is contrary to most findings in the literature which show that older offenders recidivate at lower levels than younger offenders when treated (see McLean & Grace, 1998). Treatment has not been found to be as effective for the younger offenders, those under 18, compared to men who offend as adults (Bakker, 1998). If treatment of DWD is as effective for younger drivers as for older drivers then it suggests that attempts should be made to get offenders into treatment early in their DWD career since most of these start when offenders are young. This would prevent them obtaining numerous disqualifications over many years and curtail the problem of the disqualification period increasing to the extent that offenders see little point in abiding by it. This treadmill effect has been recognised by the Land Transport Safety Authority and Ministry of Justice (1997); helping disqualified drivers abide by their disqualifications before they escalate would reduce the problem of DWD in New Zealand. Since age has not been a barrier to treatment, the DOT programme, by treating younger offenders before they obtain lengthy periods of disqualifications through multiple infractions, could help to curb DWD offending.

In contrast, the age effect was found for reduction in criminal recidivism where older offenders had longer survival times than younger offenders. However, it should be noted that the mix of groups in terms of offender characteristics might have produced different results than if only young offenders

were in the group. The dynamics of group processes may mean that younger offenders are more affected by treatment when there are older role models in the group who are motivated and changing their behaviour. The responsivity principle (Andrews & Bonta, 1994) would suggest that different age groups might be more responsive to different treatment methods. However, this does not explain why DWD offending treatment does not appear to have been affected by age while criminal offending has. This suggests that other factors may influence DWD offending compared to criminal offending with the factors influencing criminal offending being more age specific. Future research could explore this possibility further.

### **Relapse Prevention in Relation to the Psychology of Criminal Conduct**

The size of this treatment effect (18% for DWD and 10% for criminal offending) is in the range that has previously been found in the literature. Andrews et al. (1990) reported a range of treatment effect sizes in their meta-analysis of treatment of criminal offenders in reducing recidivism (as measured mostly by reducing reimprisonment but also reducing reconviction or re-arrest) at between 15 and 30 percent for community programmes and 10 and 20 percent for prison based programmes. However, other meta-analyses have suggested effect sizes of between 8 and 16 percent are more typical (Losel, 1996; McLean & Grace, 1998). This would suggest that the DOT treatment programme has been more effective than most dealing with offenders. The meta-analysis of alcohol related driving interventions by Wells-Parker et al. (1995), also found average treatment effect sizes somewhat smaller than that found in this study. It is possible that the emphasis on offense-specific cognitions and behaviours has increased the effect size compared to treatment effectiveness reported in the meta-analyses of treatments largely based on generic alcohol based treatments. Focusing on the offense process is new and may have contributed to treatment efficacy over and above such programmes which focus on alcohol use rather than offending behaviour as the DOT programme does. More than a third of the programme content focussed on the offense process and the cognitive elements of offending.

The inclusion of characteristics of known effectiveness in the treatment design and delivery would support a larger effect size. The principles of risk, need, responsivity and programme integrity developed by Andrews and Bonta

(1994) have been well supported by the literature on what works with offenders (see Gendreau, Little, & Goggin, 1996, McLean & Grace, 1998). By including these concepts in the DOT programme, treatment effect should have been maximised. Such principles do not appear to have been used by traditional driving interventions. Examples of such elements include taking the more at risk driving offenders - those most likely to be imprisoned and with substantial offending histories.

By targeting needs that have been found to be linked with offending such as lack of social skills and poor mood management the programme has adhered to the needs principal. Responsivity is a principle proposed by Andrews and Bonta (1994) as important in maximising treatment gains. Using terms that are common to driving offenders it has been possible to be responsive to the lower literacy found among offenders. Using terms such as "tool box" instead of coping skills repertoire, "tools" instead of coping skills, "red flags" instead of high risk situations, and "stinkin' thinkin'" instead of SICs and cognitive distortions, has meant that the programme has minimised the impact of problems in using the RP lexicon (Carroll, 1996).

The length of the DOT programme has also ensured that time allows for rehearsal of skills and embedding of concepts to cope with the complexity of RP; the length of time also agrees with the minimal level suggested by Gendreau, Little, and Goggin (1996). This addresses a criticism of many treatments that have applied RP. Active methods involving modelling and role-plays have meant that, not only are skills practised, but also didactic presentation is kept to a minimum to address the learning styles of offenders. In the above manner the DOT programme has utilised the elements identified as most effective in offender interventions.

A question could be raised as to whether the treatment effect would have been smaller, or even non-existent, if the control group had received the same contact time with probation officers. That is, that rather than the RP intervention being effective, it was the amount of time spent with the facilitators during the intervention that accounted for the treatment effect. Given that the literature review of RP highlighted that RP did not seem to produce better results than other treatments this is of concern. The existing contact between probation officers and offenders at the time the control group was under supervision was not specifically targeted at criminogenic needs but would have been more based on intensive supervision (increasing the frequency of contacts between a probationer and

probation officer). This practice has been reviewed recently as to its efficacy at reducing re-offending. Gendreau, Goggin and Fulton (2000) conducted a meta-analysis of 47 programmes that evaluated the impact of intensive supervision with a mean effect size of 0.0. This argues against time spent in contact with a correctional officer being a valid alternative to the RP intervention used here.

### **Criminal Survival**

In a similar vein, the finding from the Cox proportional hazards regression included in the survival analyses that continued criminal activity (as measured by reconvictions obtained in the post treatment period) is related to DWD failure and alcohol related driving, suggests that those who continue to offend do so in a wider domain than just driving offending. As previous non-traffic criminal convictions are not related to DWD failure (number of previous criminal convictions was not significant as a variable in the survival analysis) it is clear that there are still some active criminals who are being included in the programme. This is similar to other studies that report the co-occurrence of driving offending and other problem behaviours (Mayer & Treat, 1977). The lack of a significant predictive result for previous offending is surprising given that such static predictors as number of previous criminal convictions have been found to be correlated with further offending in prediction devices such as the Level of Service Inventory-Revised (Andrews & Bonta, 1995) and the Risk of Conviction Models (Bakker, O'Malley, & Riley; 1996). However, this may be a result of driving related predictors such as DUI convictions, being better predictors of driving reconviction than criminal history variables. The sample of offenders is also much smaller than used in the criminal prediction studies that may also result in a lack of significant correlation.

For criminal offending, the difference between the two groups was found to have clinical relevance for those who complete the programme; 10 % of the treatment group represents 14 men who were not convicted of further criminal offending. Further follow up, or larger sample size, may separate the two curves more and demonstrate a significant reduction in criminal offending following treatment even when the dropouts are included.

It is likely that the dropouts did not receive sufficient skills, or had difficulty generalising from the DWD related aspects, because they missed

substantial amounts of the programme content; many of these latter skills may have made the difference for those who completed treatment. The impact of the dropouts did not affect the strong treatment effect on DWD but has affected criminal offending. Given that this was not the primary focus of treatment this would be expected.

It is not surprising that some impact on criminal offending should occur as many of the cognitive behavioural treatment methods used in the DOT programme have been demonstrated in the literature to reduce recidivism in the general criminal population (See for example, Andrews & Bonta, 1994; Gendreau, Little, & Goggin, 1996; Lipsey & Wilson, 1993; McLean & Grace, 1998); the ability to more adequately cope with stress, anxiety, anger and relationship difficulties will have a broader application than just DWD and would be expected to aid coping in general. The importance of failure to cope in the offense processes of men who commit crimes has been reported by Zamble and Quinsey (1997). The difference between the two groups at the termination of the follow up period for the treatment participants established by the survival analysis is about 10%, which matches the average reduction in recidivism found in the literature (Losel, 1996; McLean & Grace, 1998).

Given the high numbers of men with both criminal and traffic offenses similar to those who participated in the DOT programme, an intervention with proven treatment effectiveness would offer a great deal to correctional services; the offense process focus of the DOT programme could be readily modified to focus on other offenses such as burglary, theft or fraud. It also supports the view that focussing treatment upon specific offense related cognitions and behaviours could provide offenders with the skills to exercise control over these behaviours. Those with alcohol related problems might not have been able to obtain the skills necessary to control the offending cognitions and behaviours that occur when under the influence of alcohol. Given alcohol's psychopharmacological properties (e.g., disinhibition) the programme may not have provided them with the means to access their offending related cognitions and behaviour when in an intoxicated state. If their offense related cognitions only occur when in that state alternative strategies and coping skills than those taught on the course, might be necessary. Alternatively, greater emphasis placed upon alcohol as a HRS and relapse precipitant may have helped participants establish better coping responses. It is noteworthy that alcohol was a relapse

precipitant found for smoking relapse by Lichtenstein et al. (1977) and also for cocaine abusers (Wallace, 1990).

### **DUI Survival**

The results for survival times to a DUI offense show that the treatment programme did not affect alcohol related driving. The second hypothesis for this study was that because alcohol based driving and DWD were arguably two distinct subgroups; treatment aimed at DWD should not affect alcohol related driving. The results support this hypothesis and provide further support for treating alcohol related driving as a distinct problem from DWD. The literature on driving offending has consistently seen drivers as a homogenous group where alcohol based treatment has been required and ignored evidence for sub-groups. This study has highlighted the benefits of developing specific treatments for a driver sub group. If the treatment had been as effective for both DWD and DUI related driving then it would be expected that the survival analysis for DUI would produce a significant difference. It did not. Indeed, when those who were reconvicted for an alcohol offense were considered, a high proportion of offenders who drove again was convicted of both a DUI and a DWD offense. When DUI was added as a variable in the regression component of the survival analysis for DWD survival time a strong relationship was found between alcohol related driving and subsequent DWD; in other words those drivers who did commit further offenses tended to do so while intoxicated. The proportion of offenders with both offenses together was higher for the treatment group (85%) than the control (72%) supporting the view that the numbers that drove without alcohol had reduced through treatment.

It was expected that the DOT treatment programme would not affect those with alcohol problems that lead to driving. Its relapse prevention focus was on driving related cognitions and behaviours and not alcohol use. Generalisation of these principles and skills to help control alcohol use does not seem to have occurred and was not predicted to. The offense process highlighted the separation of factors directly involved in the offense chain - frequently alcohol was not involved. While most of the DOT members had alcohol problems - the average audit score used during assessment indicated problematic drinking - such problems did not necessitate that alcohol was involved in the driving offending itself. The offense process model

developed by Wilson et al. (1998) demonstrated that alcohol involvement was found in one pathway but not others. However, there is evidence to suggest that those who failed subsequent to treatment did have problems with alcohol being involved in their driving. For most offenders who were reconvicted of DWD following treatment, alcohol was a problem in their subsequent offending in that the majority were also convicted of DUI at the same time; this is also evidenced by the significant relationship of the alcohol variable as a significant independent variable in the DWD regression analysis. However, this is partly an artefact of the law - offenders with a suspended or revoked license will be prosecuted for DWD if they are caught and they are more likely to be caught if driving under the influence of alcohol. In such cases both offenses will be prosecuted and will be entered as convictions on the traffic history record. The higher proportion of DUI and DWD convictions among those who recidivated in the treatment group compared to the control group indicates that alcohol was more often a problem in the offending of the treatment group recidivists. An interesting additional study could investigate the process which these drivers went through for their re-offending to see whether this was through the pathway identified in the Wilson et al. model or whether the process was separate.

Even though the assessment phase of the programme was designed to screen out those who did not have DWD as their major driving problem, the AUDIT scores show that alcohol was still problematic for many participants. This suggests that either the screening procedures for the DOT programme will need to be further developed to avoid taking in drivers who still have problems with alcohol (possibly sending them to alcohol treatment first) or that a module specifically related to alcohol treatment will need to be included. Such a module would focus on the importance of alcohol as a HRS and determine, for each participant, its role in his or her offense chain and appropriate coping strategies. The average audit score of 14.5 is well above the threshold for alcohol problems and given that many had scores higher than this, is indicative of alcohol dependence. It also suggests that if either these alcohol-related drivers can be screened out, or effective coping skills can be provided for alcohol as an HRS, the treatment effect will be stronger still for DWD, as many of the treatment failures committed alcohol related driving.

## Relapse Prevention

The results also support the application of relapse prevention to a new problem area - DWD drivers. As noted in the earlier literature review, relapse prevention has not been tested over substantial follow-up periods of time and, until this study, among the offending population had only been applied to sex offenders (Laws, 1995; Losel, 1996). This study has implications for both RP theory and in terms of RP's application.

The major hypothesis addressed in this study was whether Relapse Prevention would work with DWD drivers. The results suggest that this is so and support Marlatt's contention that RP can be applied to any habitual compulsive behaviour. The areas that RP has been applied as described in the literature review included, substance use (smoking, alcohol, drugs), exercise, weight loss, schizophrenia, sex offending, depression, and atopic dermatitis. DWD offending can also be added to this list. These behaviours share the need for treatment participants to become aware of the steps that lead to relapse, monitoring the cues that indicate progression along the behaviour chain and implementing strategies to avert further progress. The repetitious nature of DWD offending suggests that for these offenders the specific cognitions that lead to offending become over-learned and automated. This is supported by the frequency of driving occurring for these offenders. Williams, Hagen and McConnell (1984) report that over 65% of disqualified drivers drive while disqualified and that many drive on more than twenty occasions; those with longer histories of offending drive more frequently still. Given the frequency of driving behaviour it would be expected that it would become an over-learned behaviour and that the specific cognitions involved in deciding to drive would become automatic.

The Wilson et al. (1998) model highlights the important role that cognitive distortions play in mediating progress through the offense process. Offenders were found to have little awareness of the contribution of such thinking to their offending. Ward, Hudson, and Keenan (1998) have considered the presence of schemas, or over-learned scripts, as one pathway, which they labelled the approach automatic pathway, by which men move through the offense process. They considered that RP theory had not acknowledged this pathway. As applied to the DOT programme RP, by focussing on the role that cognitions play and by



unravelling the offenders behaviour chains and the schemas that are involved in them, has provided both insight into their offending and a framework by which offenders can apply interventions. While no specific measures were included, offenders consistently reported that the "light went on" following exploration of their offense processes. They developed an understanding of the cognitive processes, the cognitive distortions and the implicit decisions they made, that contributed to their offending. This change in cognitions is supported by the increases in DOT scale score. In addition the intervention strategies such as monitoring key cues, altering cognitions to modify distortions, or applying coping strategies could be seen as having specific functions in managing and regulating their behaviour. The understanding of the offense process and the framework for intervention provided by RP sets it apart from other cognitive behavioural intervention strategies. By making the offense process explicit it provides a rationale to the offenders for monitoring their own behaviour and applying the strategies they have learned. This is particularly crucial in the early stages when their skills and strategies are newly developed. It also highlights the need for rehearsal of these skills so participants can use them appropriately when threats to abstinence occur and can have confidence in the efficacy of these skills.

The acquisition of skills and insight into the offense process also contribute to participant self-efficacy. Marlatt considers that relapse is more likely to occur when self-efficacy related to self-regulation is reduced. By providing a framework that makes sense to offenders and having strategies to cope with high risk situations, offenders develop confidence in their ability to self-regulate. This in turn makes the use of such skills in HRSs more likely. The benefit of rehearsal is that both competence and self-efficacy are likely to be increased. A criticism of many studies in the literature that have not found treatment effects for RP is the lack of rehearsal opportunity due to short programme duration. Participants who have not rehearsed skills to a point of competence are unlikely to have confidence in using them in HRSs resulting in a higher degree of relapse. No explicit measures of self-efficacy for using skills were taken as part of this study and relating such changes to treatment outcome would be a useful addition for future research.

In a similar vein the modification to cognitions supporting offending is an important aspect of RP. The change measured by the DOT scale underscores the success of the behaviour chain exploration and cognitive restructuring modules.

Adherence to cognitive distortions related to driving significantly decreased from pre to post intervention and was related to reduction in DWD recidivism. The DOT scale being the only scale to show appropriate pre to post treatment changes highlights the importance of cognitive distortions. Specifically, skills provision aimed at modifying anger (as measured by the STAXI), anxiety (as measured by the STAI) and assertive communication (as measured by the SRAG) did not produce significant changes when compared to a psychometric control group. It is possible that these measures were not particularly sensitive, but these measures have been well validated - the SRAG on New Zealand offenders (McCormick et al., 1984). These skills may have less relevance to reducing reconviction than the cognitive modules. This may reflect the different pathways for offending that were identified by the Wilson et al. model. The number of participants whose offending reflected the negative affect, coping pathway, may have been relatively few compared to the other pathways - particularly the pathway that Ward and Hudson have labelled the approach automatic pathway reflected in Wilson's model by implicit decision making. Wilson et al. (1998) did not report the relative distribution of offenders who progress through the various pathways. In the sex offenders studied in Hudson, Ward, and McCormack (1999) only about a quarter went through the traditional negative affect pathway while a third went through a positive explicit pathway. Further exploration of the different pathways in driving offenders seems warranted.

As noted earlier, RP has not been empirically tested in a general criminal population. Part of the reason is that it has principally been applied to low baserate offenses such as sexual offenders (e.g., Laws, 1989) who often have substantial periods of imprisonment and who may be difficult to track through official records in larger jurisdictions such as North America. Various types of treatments with offenders are relatively successful in the short term but fail over the long term because of a lack of relapse prevention measures (Losel, 1996); this study demonstrates what can be achieved when such techniques are employed.

Many of the outcome studies, reviewed earlier, that have focussed on addictive substance use have limited their follow-up periods to less than six months or at most a year, this study has demonstrated that the impact has extended to substantially more than a year. Such studies have also had small numbers of participants resulting in little statistical power and being unable to produce significant differences even when outcomes favoured RP. Having a larger sample

size has enabled the identification of both successful driving related reduction and also criminal offending reductions.

The use of RP for offending has intuitive appeal because of the requirement for abstinence and because most men who offend consider that their offending is impulsive (Zamble & Quinsey, 1997, p. 64). Laws (1989, 1995) considers both of these characteristics necessary prerequisites for RP treatment. Understanding the relapse process is important and provides useful information. Zamble and Quinsey (1997), who have identified a lack of coping skills as a crucial component of recidivism, investigated the recidivism process for men released from prison. Specifically skills related to relationships, problem solving, mood management and stress have been found to be important. The DOT programme has provided such skills to the participants and a reduction in criminal offending found, suggesting that there may have been some generalisation of such skills and supporting the view that RP may have value with other offense types. However, such skill acquisition in relation to anger, anxiety and assertiveness, did not result in changes on the assessment scales used, and it is unclear whether other factors may have been involved in the reduction in criminal recidivism. Exploring more fully if the coping skills have played a role in the reduction of criminal offending would seem an important additional study.

The attendance at maintenance groups post treatment may also have played a part in the reduction of recidivism. The value of maintenance has not been specifically tested in this study but has been reported in the literature as a valuable addition to treatment (Carroll, 1996; Marshall & Anderson, 1999). Exploring further the benefits of maintenance and its relative contribution to treatment effectiveness would add to understanding of this component of RP.

Many of the offenders were sentenced to treatment as an alternative to imprisonment by judges and this may have had a part to play in the low dropout rate and the high attendance rate. The value of having a motivational module at the start of treatment may have helped these offenders become committed to the treatment process. Strategies based on the motivational interviewing techniques of Miller and Rollnick (1991), such as the decision grid, proved useful in helping offenders realise the benefits of participating in treatment. No details were collected as to which offenders were sentenced in this manner and determining the results of having participants entering treatment under such circumstances compared to those who

attended entirely of their own volition would be of value. In addition, investigating the relationship between motivational stage (Prochaska, Di Clemente, & Norcross, 1992) at the beginning of treatment and recidivism would also be valuable. It may be that those who are more motivated (e.g., those in the action stage of the Prochaska and Di Clemente model) may not require the motivational module whereas those in the precontemplative stage may require additional motivation material.

An additional advantage of having an offense process based treatment programme, rather than being limited to Marlatt's model where the AVE is seen as an essential component of relapse, is that not all DWD drivers have experienced an AVE. By being able to develop an offense chain based upon their own experiences the RP process could be applied to their own experiences aiding in their acceptance of its veracity. As Hudson and Ward, (1999) put it in favour of an offense process approach:

This has the capacity to avoid the debate as to whether the model applies. We have to acknowledge the need for scope and create a model that is broad enough to cover what offenders actually do, rather than essentially tell them how they behaved and expect them to agree. (p. 53)

In the treatment process attention was paid to the AVE because it was assumed that such offenders *following* treatment should experience some form of AVE given that they were now trying to restrain their driving behaviour. However, it was also important to focus on the other pathways through which offenders could relapse, such as positive pathways and have coping strategies developed for these.

There have been further developments in the literature related to self-regulation that could add to the efficacy of the DOT programme. Of particular note is the development of a theory of self-regulation developed by Hudson and Ward, (1999) for sex offenders. The development of a clearer understanding of the processes as outlined by Wilson et al. (1998) could enhance treatment strategies. Hudson et al. (1999) have provided an example of how the self regulation model can impact the treatment of sex offenders and it is possible that the same self-regulation model applied to driving offenders would also enhance treatment. The manner in which it builds on the offense model of driving is that it highlights the importance of goals and how these are linked as explanations for the pathways that offenders

proceed through during their offenses. If driving offenders also fit the model then it allows for a more targeted approach to treatment than was used in the DOT programme. The programme was modified following an initial pilot to account for the differences between offenders whereby only those components of the programme that were relevant were applied. However, this lacked a clear theoretical foundation and was based more on assessment of offenders already possessing some skills. The Hudson et al. model highlights specific treatment strategies that apply to the four different offense pathways they identified. For example, for the approach automatic pathway, the major issue is awareness of offending which is seen to occur due to over-learned scripts and an absence of meta-cognitive control (i.e., explicit attention). The major emphasis for intervention is to teach self-regulation strategies, particularly understanding the offense process. This particular process is one that does appear to have relevance for offenders; facilitators reported that following the description of the offense process many offenders said that the "light went on" and they could see what they had been doing but which they had been unaware of. Additional attention to the implications of the Hudson et al. self-regulation theory as to its application to driving offenders seems warranted.

### **The Effect of Treatment Settings**

The second hypothesis was that there might be a greater treatment effect in the community than in prison. No difference was found between the prison participants and the community based offenders. Treatment appeared to be equally effective both in terms of outcome and pre to post treatment measures.

The finding that post treatment survival was not related to offender location (whether prison or community), suggests that the more cost effective alternative of community based treatment should be continued. This is especially so as research has reported that community based treatment is generally more effective than prison based programmes (Andrews et al., 1990; Gendreau, Little and Goggin, 1996; McLean & Grace, 1998). It may be that the small prison sample of approximately 24 offenders reduced the statistical power of the comparison and that a larger sample may have produced a difference. However, given that the initial treatment delivery, when facilitator skills would be expected to be low, was in the

prison, a finding of reduced effect in prison was favoured. Failing to find such a difference might then suggest that the result is reasonably robust.

The prison based participants were selected because they were nearing the end of their sentences and thus may have had opportunity to practise their new skills in real life settings soon after termination of treatment when they were released. The community maintenance groups post treatment may have further solidified skills and provided the "booster" needed to maximise treatment efficacy. This possibility could be tested as a future study. The meta analysis of Gendreau, Little, and Goggin (1996) that found that community based treatments were generally more effective than prison based interventions did not specify whether the treatments were conducted at specific times during sentence which could be expected to make a substantial difference to the recidivism outcome. If prison based treatment was conducted at the beginning of sentence there could be a longer period of time before what was learned could be practically applied with the consequence that such skills may have deteriorated in the period before release. Community participants can employ their skills immediately. To date the issue of when in a sentence prison based treatment should occur has not been addressed by research. This study suggests that treatment at the end of sentence may minimise differences between prison and community based treatment.

### **Pre and Post Treatment Measures and Treatment Effect**

The third hypothesis that was tested in this study was whether measures taken before and after treatment would show changes in the expected direction. Only the DOT scale, used to assess changes during treatment, has found significant changes when compared to a no-treatment psychometric control group. Other scales, such as the STAXI, STAI and SRAS did not find significant differences when compared to the no-treatment psychometric control. While within participant pre to post treatment changes for the STAI were noted, they were not found when a control group was added; in other words the changes measured by the scales were a consequence of a lack of reliability in the scales rather than treatment effects. This highlights the need for comparison groups in evaluations to control for the effects of time.

Even without the treatment controls only one third of the measures reported significant change; the Trait anxiety scale of the STAI, the Anger Expression scale of the STAXI and the DOT scale. It is likely that the scales are not sensitive to those cognitions and affective components most salient in the offense itself. For example, a high score on the state scale of the STAXI may indicate high levels of anger, but it is an offender's anger at the time of the offense, how it developed, how angry he became etc. that is most important. The trait scale would be expected to detect longer term tendencies in anger but if specific proximal features of the offense were particularly important this may not be measured by trait scales - they may not be typical of longer term anger tendencies but specific to the offense process itself. It is therefore not surprising that the one scale that actually measured aspects directly relevant to driving offending, the DOT scale, found significant improvement for treated offenders.

This issue also raises questions about the general use of scales such as the STAXI and STAI in populations of offenders without using a comparable control group as, clearly, changes over time can occur for offenders without interventions. However, as mentioned earlier the failure to measure changes on some scales may also indicate that some components of the treatment were more relevant and/or effective than others; that is, measuring elements directly relevant to the offense process such as affect regulation.

### **General Issues**

This study has highlighted the importance of treating driving offenders as distinct groups rather than as a homogenous population. The failure of treatment programmes to distinguish driving offenders into sub-groups for the purposes of treatment has meant that many offenders have not benefited from such treatment to an extent that they do not commit further offending. In addition, the efficacy of traditional treatments has been harder to demonstrate as a consequence of this failure, which may result in their being inappropriately rejected. By separating out DWD drivers and providing them with a RP intervention it has been possible to demonstrate a treatment effect. Given the large numbers of driving offenders it is important that the literature and treatments address this failure.

Related to this issue is the need to focus on driving behaviour or precursors to it. By focussing on abstaining from alcohol rather than driving behaviour the driving offender may not obtain the necessary skills to stop driving. While they may abstain from alcohol they may not have learned the skills necessary to refrain from driving; being intoxicated is not the problem, but driving while intoxicated and which causal mechanism is operating, is. This failure of existing treatment programmes reported in the literature to address the driving behaviour as well as the alcohol problem, is likely to reduce the effectiveness even of traditional alcohol related driving treatment programmes. An alcohol related driving programme could well expand on the RP approach used in this study to provide coping skills to deal with situations that lead to alcohol use prior to driving.

The benefit of a comprehensive process model in the development of treatment strategies utilising the Wilson, Ward, and Bakker (1998) model could be an improvement to the DOT programme. Offenders found to follow particular pathways may require only some components of treatment. For example, those who follow a positive pathway may have sufficient coping skills but lack the motivation to use them. Treatment could then focus on increasing the awareness of costs involved in offending and benefits of change. Conversely those with negative affect pathways could require mood management strategies, and the other strategies more common to RP programmes.

Other areas where RP has been applied do not have such detailed descriptions of the role of various elements in the relapse process. This means that the treatment programmes based on these models cannot be as precise in their focus. This has been observed in the sexual offender area where the predominant model of sexual offending, the Pithers' model, allowed for only one pathway, a negative affect, covert pathway. Subsequent work by Ward and Hudson (1996) has demonstrated the existence of at least three other pathways through which offenders can pass on the way to offending. Treatment programmes making use of these alternative pathways would be expected to effectively provide coping skills for offenders. Similar models could also be developed for other problem behaviours, such as violent offending, where RP has been used. The fact that this study has demonstrated a reduction in criminal offending as well as DWD offending suggests that models of criminal offense processes could also be the basis for development of interventions.



### Limitations and Improvements

Despite having demonstrated the value of relapse prevention in reducing reconviction, the process measures employed in this study did not generally record what specifically changed for these offenders. Developing more appropriate measures would aid the measurement of treatment change and add to our knowledge of how such change is linked with treatment outcome. While within participant pre to post treatment changes were noted several were not found when a control group was added. This highlights the need for comparison groups in evaluations. It is likely that the scales are not sensitive to those cognitions most salient in the offense itself. For example, a high score on the state scale of the STAI may indicate high levels of anxiety at the time of measurement, but it is an offender's anxiety at the time of the offense, how it developed, and how anxious he became that is most important. Zamble and Quinsey (1997) in their study on recidivism utilised a methodology aimed at eliciting offense related cognitions and affect at points in time up to the offense. Using measures they developed, rather than standard psychometric scales, they were able to show clear links between recidivism and various cognitive processes. By employing standard psychometric instruments at long periods after the offense the crucial offense relevant cognitions, affect and behaviours are unlikely to have been assessed. Yet it is these offense-related components which were highlighted during the treatment programme as requiring change. Some factors such as anxiety, depressive symptoms and anger may be common to all offenders immediately after sentencing at Court and may normally dissipate over time. This would account for the reduction in such scale scores for the control group. Any effect of treatment on these characteristics may have been masked by this natural reduction. Alternatively, the treatment may well have changed other elements not measured by the scales.

One scale that did identify a significant difference between the treatment and control groups was the DOT scale. As expected, there was a significant interaction effect between treatment group and repeated measures factors; DOT scale scores remained the same for the control group but increased (representing a decrease in adherence to cognitive distortions) for the treatment group. A fuller discussion of the psychometric properties of the DOT scale is provided in appendix 1.

One possible explanation for the DOT scale reporting pre to post treatment change is that treatment participants have been explicitly challenged on their cognitive distortions and therefore are more aware of them at post testing. Most driving offenders may not have sufficient insight into the thoughts and attitudes related to their offending to be able to answer the scale items in a meaningful manner. The offense chain that offenders pass through in their offending might be so automatic that they possess little awareness of the steps involved. The cognitive distortions they use might be almost subliminal because of the level of automation involved in such thought structures (also known as schemas). This hypothesis has also been suggested as acting in the relapse process of sex offenders (see Ward, Hudson, & Keenan, 1998). It is possible that such automated schemas exist in driving offenders and part of what makes the DOT programme effective is that driving offenders become conscious of the cognitive distortions involved in their offense chain as well as the behavioural and environmental triggers for their driving offending. This knowledge would mean that their performance on the scale would differ when used post treatment compared to scores before treatment start. That the scores of treatment participants differed significantly from the psychometric control group would support this possibility.

An alternative measure may well be needed to better measure the changes occurring through treatment; one that incorporates other elements of the offense process besides adherence to cognitive distortions. This could be by way of a device that utilises an understanding of the relapse prevention approach as applied to driving offending. Greater understanding by the offender of RP components relevant to the offender's own offense chain, could be used to indicate reduction in risk of further offending. This would entail the offender being questioned about their understanding of the elements of their own relapse chain (lifestyle imbalance, SICs, HRSs etc.) before and after treatment. Increase in knowledge of the components would hopefully, be correlated with reduction in risk. Coebergh, Bakker, Anstiss, Maynard, and Percy (1999) have developed such an approach for assessing the severity of criminogenic needs for general offenders. Our approach assesses the offender's knowledge and application of RP elements to identified criminogenic needs. The greater the knowledge and demonstrated incorporation of RP elements the lower the severity of the need is considered to be. This same approach could be

applied to assessing change due to treatment programmes such as the DOT programme.

Overall the questionnaire results, although indicating modest clinical change, are in the expected direction and suggest that the programme is producing change in those variables considered by Donovan et al., (1983) to mediate risky driving; namely, failure to cope adequately with depression, stress, and hostility. These changes were statistically significant but of modest absolute size. However the associated large reductions in DWD recidivism suggest that other factors may be important or that the questionnaires used in this study had not adequately measured treatment change. The measures may lack sensitivity in measuring dynamic components related to the elements of the offense process, such as anger or stress.

Another limitation of this study is that the control group is matched on the basis of a number of presumably relevant variables such as offense history and demographic variables. While others, such as Wells-Parker et al. (1989), have found these variables to be related to driving offending the exact strength of such relatedness is not known. What is needed is a risk prediction device that calculates the risk of reconviction for a traffic offender. Such a device has been developed for general criminal offending by Bakker, O'Malley, and Riley (1996) and has been used to select control groups based on equivalent risk of reconviction. If the matched control group in this study was higher in terms of risk then the impact of treatment could be partially a consequence of this difference. A randomly selected control group and treatment group is the best method for such evaluations but the numbers of suitable offenders has never been sufficient to allow this. Even had there been sufficient offenders, difficulties with the ethics of a no treatment control for offenders would suggest that those most at risk of re-offending should be chosen. Marshall and Anderson (1999) provide a discussion of the ethical dilemma facing treatment providers of sex offender programmes of using random selection and considers that contrast groups are the most appropriate means of establishing treatment effects. The use of a matched control group using the measures available is the best that could have been done. Having an accurate risk prediction device would have provided a further test of the adequacy of the control group. Bakker and O'Malley (1998) have recently reported work on such models for traffic offenders.

A related problem with the control group is that it was selected from the 1990 year. This means that the entire control group came from the 1990 year

whereas the treatment group came from the years 1990-94. If Police detection of offending changed over this period it would have affected the treatment group more than the controls. There is a potential cohort effect in that the control group might have had different re-offending processes and factors that affected them, in particular changes in detection due to changes in Police policies. This did happen in New Zealand with a merger of the Traffic and Police agencies in 1993. This meant that there were substantially more resources devoted to detection of driving offending. This is likely to have resulted in a bias against any treatment effect in that the treatment group had a higher likelihood of detection than the comparison group.

In addition to the development of a better risk prediction device, it could also be possible to determine what aspects of treatment work best. The nine weeks for actual treatment mean that the amount of treatment resource might have better results if it were possible to determine which components were most helpful. Marshall and Anderson (1999) who reviewed the RP outcome literature for RP sex offender programmes suggests that some elements may be unnecessary. They found that programmes with only some elements of RP worked as well as those with full RP programmes and programmes with extensive post treatment maintenance.

An additional issue that limits this study is the use of reconviction as the major outcome variable. This is a conservative measure of re-offending in that it underestimates the actual offense rate. It is dependent upon both detection and prosecution - detection in particular is relatively low for DWD. The use of self reports from the offender and their support group could have provided additional data to support the treatment effect. This would have necessitated the use of a matched control group that would also be followed up in the community rather than relying upon a control group drawn from actuarial data. Nevertheless, it would strengthen the confidence that could be placed in these findings.

### Future Research

The discussion above has highlighted a number of research topics that would increase our knowledge of DWD and other offending. The following section considers additional research that could develop from the findings of this study.

Having demonstrated the value of focussing on a specific sub-group of driving offenders, a useful development in the literature would be to consider the

other sub-groups of offenders highlighted by Donovan et al. (1983) and Wells-Parker et al. (1988). In particular developing interventions for the younger risky drivers who do not have substantial traffic conviction histories could have a major benefit of avoiding the treadmill of DWD. The impact of such a programme could be further enhanced if accurate prediction of such offenders could occur. While the models developed to predict driving offending by Bakker and O'Malley (1998) could be used they in turn could benefit from the introduction of psychologically relevant variables; currently they include only static traffic and criminal history variables. Such research would enhance treatment efficacy in accordance with the risk principle (Andrews & Bonta, 1994). A further research topic related to DWD drivers would be exploration of the cognitions and cognitive processes that occur during their offense process. The DOT scale assessments suggest that the automation of thought structures, or schemas, might make offending more likely. Detecting such schemas and measuring the impact of intervention on them could provide information to further enhance treatment efficacy.

Further developing assessment tools that separated the various subgroups of drivers more readily would also be of value. Donovan et al. (1983) used a number of assessment tools and a structured interview protocol to arrive at the information from which they derived their sub-groups; a simpler screening device would be of value if separate treatment programmes are developed for each subgroup.

In addition to these investigations of areas related to drivers, research could also focus on aspects of relapse; in particular, the reason why some offenders failed. While an 18% treatment effect is significant both in statistical and clinical terms, it still represents a failure rate of 35%. Identifying what produced recidivism would be useful for improving programme content and delivery. Indication that alcohol may have been an important factor is demonstrated by the higher incidence of alcohol related driving convictions for those who recidivated. This is seen by the increase in the proportion of offenders who have both alcohol and DWD offenses, from 72% for the control to 85% for the treatment group. When the DOT participants have failed it is more likely to be an alcohol related driving offense than for the control group. Greater attention to the role alcohol played for these offenders may lead to better assessment procedures which in turn may classify these offenders into different treatment groups more accurately. Modifications to the DOT

programme to tailor it more appropriately for alcohol related offenders might be a useful development. Such changes would involve greater attention to pre drinking components of the offense chain and on developing coping skills for these.

Another further benefit of further investigating the offense process of treatment failures would be to determine whether they experienced the AVE. While few offenders reported the AVE as part of their offending it would be expected that as a consequence of treatment that they would be motivated to restrain from further driving. Failing to do so should then produce the AVE. The self-regulation model for relapse proposed by Hudson et al. (1999) would view these drivers as having moved from an approach pathway to an avoidance pathway. The presence of the AVE in such offenders would also be a test of their model.

It may also be possible that treatment failures were predominantly following one pathway when re-offending. This might then provide useful information for modifying the treatment programme further. For example, if the treatment failure was through the positive misregulation pathway such offenders may not need social skills training for coping skills but rather need additional treatment aimed at developing motivation and modifying cognitive distortions.

The facilitators have also commented upon the value of social support. While no measures of this were kept, anecdotal evidence from participants and their social supports suggests that having others in their social networks available to remind them of their relapse plans and to help maintain motivation, is a useful treatment adjunct. This is an area that warrants further research attention. Studies in the schizophrenia (Goldstein, 1995) and substance abuse areas (Stephens et al., 1994) have found that social support is a factor in reducing relapse.

A further important area of research in the RP area involves identifying the key components related to treatment outcome. Comparing interventions with and without components would provide support for which elements individually and in combination have the greatest impact. Given RP's complexity and the length of intervention required to canvass all existing components, being able to remove redundancy would be of considerable benefit. It has relevance for RP programmes in general given that Marshall and Anderson (1999) have reported that sex offender treatment programmes without maintenance, or booster sessions, produced very similar results to those that did. If maintenance is

unnecessary then substantial resources could be saved in not having to include this component. Further exploration of this area offers considerable potential.

Additional research could also focus on the value of the programme in motivating additional lifestyle changes. Facilitators provided anecdotal evidence that many of the offenders who completed treatment became sufficiently motivated to begin looking for and finding employment. The value of employment as a coping skill would seem important in that it reduces idle time and boredom, and could help reduce stress related to financial pressures. Zamble and Quinsey (1997) reported that the inability to find employment was a major factor in the re-offending of their sample.

A major lack in the offender treatment outcome literature is the lack of intermediate change measures that have predictive utility (Andrews, 1999). In particular, measures such as the DOT scale could greatly increase the efficient targeting of treatment resources, or the identification of those who need additional intervention, if their predictive validity could be improved.

## **Conclusion**

This study has highlighted the benefits of an offense process based treatment approach. The DOT programme was the first offense process based treatment programme and has successfully reduced recidivism, as measured by further DWD offending, by 18% over a matched control group. In addition, the programme has produced a 10% reduction in post treatment criminal offending. The success of the programme has demonstrated the value of identifying subgroups within the driver population and developing a specific treatment tailored to the needs and characteristics of the group. The DWD driving group had previously been identified in the literature but no specific treatment programme had previously been reported. The effectiveness of treatment in this study was not influenced by treatment setting, being as successful for those in prison as those in the community. Given the substantial number of such offenders and the cost that they contribute to society, this programme has the potential to make a significant social contribution.

### References

- Abrams, D., Monti, P., Pinto, R., Elder, J., Brown, R., & Jacobus, S. (1987). Psychosocial stress and coping in smokers who relapse or quit. *Health Psychology, 6*, 289-303.
- Abrams, D., & Follick, M. (1983). Behavioral weight-loss intervention at the worksite: feasibility and maintenance. *Journal of Consulting and Clinical Psychology, 51*, 226-233.
- Allsop, S. (1990). Relapse prevention and management. *Drug and Alcohol Review, 9*, 143-153.
- Allsop, S., & Saunders, B. (1989) Alcohol problems and relapse. In Gossop, M. (Ed.), *Relapse and addictive behaviours*. London: Tavistock.
- Anderson, M., & Merrick, P. L. (1988). Dunedin Course for Impaired Drivers: A model for New Zealand? *Australian New Zealand Journal of Criminology, 13*, 133-141.
- Andrews, D. A. (1999). Personal Communication.
- Andrews, D. A., & Bonta, J. (1994). *The psychology of criminal conduct*. Cincinnati: Anderson.
- Andrews, D. A., & Bonta, J. (1995). *The Level of Service Inventory-Revised*. Toronto: Multi-Health Systems.
- Andrews, D. A., Zinger, I., Hoge, R. D., Bonta, J., Gendreau, P., & Cullen, F. T. (1990). Does correctional treatment work? A clinically-relevant and psychologically informed meta- analysis. *Criminology, 28*, 369-404.



- Annis, H. M. (1990). Relapse to substance abuse: Empirical findings within a cognitive-social learning approach. *Journal of Psychoactive Drugs*, 22, 117-124.
- Annis, H. M., & Davis, C. S. (1991). Relapse prevention. *Alcohol Health & Research World*, 15, 204-212.
- Babor, T. F., de la Fuente, J. R., Saunders, J., Grant, M. (1989). *AUDIT: The Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Health Care*. World Health Organisation Report 1289.
- Baer, J. S., Holt, C., & Lichtenstein, E. (1986). Self - efficacy and smoking reexamined: Construct validity and clinical utility. *Journal of Consulting and Clinical Psychology*, 54, 846-852.
- Baer, J. S., & Lichtenstein, E. (1988). Classification and prediction of smoking relapse episodes: An exploration of individual differences. *Journal of Consulting and Clinical Psychology*, 56, 104-110.
- Bailey, J. P. M. (1993a). *A study of the traffic and criminal conviction histories of disqualified drivers as at 1991 in New Zealand*. Institute of Environmental Health and Forensic Sciences, Lower Hutt.
- Bailey, J. P. M. (1993b). *Criminal and traffic histories, blood alcohol and accident characteristics of drivers in fatal road accidents in New Zealand*. Institute of Environmental Health & Forensic Sciences, Lower Hutt.
- Bailey, J. P. M. (1994). [DWD Offending]. Unpublished Data.
- Baile, A., Mattick, R., & Webster, P. (1990). *Review of published treatment outcome literature on smoking cessation: Preparatory readings for the Quality Assurance Project Smoking Cessation Expert Committee*. National Campaign Against Drug Abuse, National Drug and Alcohol Research Centre, Working Paper No. 1 Sydney, Australia: University of New South Wales.

- Bakker, L. (1995). [Re-offending rates of disqualified drivers]. Unpublished data.
- Bakker, L. (1997). *Base rates of offending for the 1996 year*. Psychological Service, Department of Corrections, New Zealand Report.
- Bakker, L. (1998). *Reconviction Study III: The acid test*. Psychological Service Department of Corrections New Zealand Report.
- Bakker, L., & O'Malley, A. J. (1998). *Red means stop: Identifying high risk traffic offenders*. Psychological Service Department of Corrections New Zealand Report.
- Bakker, L., O'Malley, A. J., & Riley, D. (1996). *Risk of reoffending: Statistical models which predict four types of reoffending*. Report for Psychological Service, Department of Corrections New Zealand.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Becona, E., & Vazquez, F. L. (1997). Does using relapse prevention increase the efficacy of a program for smoking cessation? An empirical study. *Psychological Reports*, 18, 291-297.
- Beerman, K. A., Smith, M. M., & Hall, R. L. (1988). Predictors of recidivism in DUIs. *Journal of Studies on Alcohol*, 49, 443-449.
- Belisle, M., Roskies, E., & Levesque, J. (1987). Improving adherence to physical activity. *Health Psychology*, 2, 159-172.

- Berlin, S. (1985). Maintaining reduced levels of self criticism through relapse prevention treatment. *Social Work Research and Abstracts*, 21, 84-96.
- Birke, S., Edelman, R., & Davis, P. (1990). An analysis of the abstinence violation effect in a sample of illicit drug users. *British Journal of Addictions*, 85, 1294-1307.
- Bliss, R., Garvey, A., & Heinold, J. (1989). The influence of coping and situation on relapse crisis outcomes after smoking cessation. *Journal of Consulting and Clinical Psychology*, 57, 443-449.
- Borkenstein, R. (1971). The drinking driver strategy for control. In L. G. Kiloch & D. S. Bell (Eds) 29<sup>th</sup> *International Congress on Alcoholism and Drug Dependence*, Sydney.
- Brandon, T. H., Zelman, D. C., & Baker, T. B. (1987). Effects of maintenance sessions on smoking relapse: Delaying the inevitable? *Journal of Consulting and Clinical Psychology*, 55, 780-782.
- Braybrook, B., & Southey, P. (1991). *Census of prison inmates*. Wellington, NZ.:Department of Justice.
- Brown, R. A., Lichtenstein, E., McIntyre, K. O., & Harrington-Kostur, J. (1984). Brief Reports; Effects of nicotine fading and relapse prevention on smoking cessation. *Journal of Consulting and Clinical Psychology*, 52, 307-308.
- Brown, S., Goldman, M., Inn, A., & Anderson, L. (1980). Expectations of reinforcement from alcohol: Their domain and relation-to drinking patterns. *Journal of Consulting and Clinical Psychology*, 48, 419-426.
- Burling, T., Reilly, P., Moltzen, J., & Ziff, D. (1989). Self-efficacy and relapse among inpatient drug and alcohol abusers: A predictor of outcome. *Journal of Studies on Alcohol*, 50, 354-360.

- Cameron, T. (1979). The impact of drinking-driver countermeasures: A review and evaluation. *Contemporary Drug Problems*, 8, 495-565.
- Carmody, T. P. (1990). Preventing relapse in the treatment of nicotine addiction: Current issues and future directions. *Journal of Psychoactive Drugs*, 22, 211-238.
- Carroll, K. M. (1996). Relapse prevention as a psychosocial treatment: A review of controlled clinical trials. *Experimental and Clinical Psychopharmacology*, 4, 46-54.
- Carroll, K., Rounsaville, B., & Gawin, F. (1991). A comparative trial of psychotherapies for ambulatory cocaine abusers: Relapse prevention and interpersonal psychotherapy. *American Journal of Drug Abuse*, 17, 229-247.
- Carroll, K., Rounsaville, B., Gordon, L., Nich, C., Jatlow, P., Bisighini, R., & Gawin, F. (1994). Psychotherapy and pharmacotherapy for ambulatory cocaine abusers. *Archives of General Psychiatry*, 51, 177-187.
- Chaney, E., O'Leary, M., & Marlatt, G. (1978). Skill training with alcoholics. *Journal of Consulting and Clinical Psychology* 46, 1092-1104.
- Chaney, E., Roszell, D., & Cummings, C. (1982). Relapse in opiate addicts: A behavioural analysis. *Addictive Behaviours* 7, 291-297.
- Chang, I., Lapham, S., & Barton, K. (1996). Drinking environment and sociodemographic factors among DWI offenders. *Journal of Studies on Alcohol*, 57, 659-669.
- Chiauszi, E J. (1991). *Preventing relapse in the addictions: A biopsychosocial approach*. Pergamon Press: New York.

- Cinciripini, P., Lapitsky, L., Wallffisch, A., Mace, R., Nezami, E., & Van Vunakis, H. (1994). An evaluation of a multicomponent treatment program involving scheduled smoking and relapse prevention procedures: Initial findings. *Addictive Behaviors, 19*, 13-22.
- Cisler, R. A., & Nawrocki, J. W. (1998). Coping and short-term outcomes among dependent drinkers: Preliminary evidence for enhancing traditional treatment with relapse prevention training. *Alcoholism Treatment Quarterly, 16*, 5-20.
- Clare, L., & Singh, K. (1994). Preventing relapse in psychotic illness: A psychological approach to early intervention. *Journal of Mental Health, 3*, 541-550.
- Coebergh, B., Bakker, L., Anstiss, B., Maynard, K., & Percy, S. (1999). *A seein' eye to the future: The Criminogenic Needs Inventory (CNI)*. Psychological Service, Department of Corrections Report.
- Collins, R., & Lapp, W. (1991). Restraint and attributions: Evidence of the abstinence violation effect in alcohol consumption. *Cognitive Theory and Research, 15*, 69-84.
- Condiotte, M., & Lichtenstein, E. (1981). Self-efficacy and relapse in smoking cessation programs. *Journal of Consulting and Clinical Psychology, 49*, 648-658.
- Cummings, C., Gordon, J., & Marlatt, G. A. (1980). Relapse: Strategies of prevention and prediction. In W. R. Miller (Ed.), *The addictive behaviors: Treatment of alcoholism, drug abuse and obesity*. Oxford, U. K.: Pergamon Press.
- Curry, S. J., Gordon, J., & Marlatt, G. A. (1987). Abstinence violation effect: Validation of an attributional construct with smoking cessation. *Journal of Consulting and Clinical Psychology, 55*, 145-149.

- Curry, S. J., Marlatt, G. A., Gordon, J., & Baer J. S. (1988). A comparison of alternative theoretical approaches to smoking cessation and relapse. *Health Psychology, 7*, 545-556.
- Curry, S. J., & McBride, C M. (1994). Relapse prevention for smoking cessation: review and evaluation of concepts and interventions. *Annual Review of Public Health, 15*, 345-366.
- D'Zurilla, T. J., & Goldfried, M. R. (1971). Problem solving and behaviour modification. *Journal of Abnormal Psychology, 78*, 107-126.
- Davis, A. L., Faust, R., & Ordentlich, M. (1984). Self-help smoking cessation and maintenance programs: A comparative study with 12-month follow-up by the American Lung Association. *American Journal of Public Health, 74*, 1212-1217.
- Davis, J. R., & Glaros, A. G. (1986). Relapse prevention and smoking cessation. *Addictive Behaviours, 11*, 105-114.
- DeJong, W. (1994). Relapse prevention: An emerging technology for promoting long-term drug abstinence. *International Journal of the Addictions, 29*, 681-705.
- DiClemente, C. C., (1981). Self-efficacy and smoking cessation maintenance: A preliminary report. *Cognitive Therapy and Research, 5*, 175-187.
- Donovan, D. M. (1989). Driving while intoxicated. Different roads to and from the problem. *Criminal Justice and Behavior, 16*, 270-298.
- Donovan, D. M., & Marlatt, G. A. (1982). Personality subtypes among driving-while-intoxicated offenders: Relationship to drinking behavior and driving risk. *Journal of Consulting and Clinical Psychology, 50*, 241-249.

- Donovan, D. M., Marlatt, G. A., & Salzberg, P. M. (1983). Drinking behavior, personality factors and high-risk driving. *Journal of Studies on Alcohol*, 44, 395-428.
- Donovan, D. M., Queisser, H. R., Umlauf, R. L., & Salzberg, P. M. (1986). Personality subtypes among driving-while-intoxicated offenders: Follow-up of subsequent driving records. *Journal of Consulting and Clinical Psychology*, 54, 563-565.
- Donovan, D. M., Umlauf, R. L., & Salzberg, P. M. (1988). Derivation of personality subtypes among high-risk drivers. *Alcohol, Drugs and Driving*, 4, 233-244.
- Ehlers, A., Stangier, U., & Giel, U. (1995). Treatment of atopic dermatitis: A comparison of psychological and dermatological approaches to relapse prevention. *Journal of Consulting and Clinical Psychology*, 63, 624-635.
- Ershoff, D. H., Quinn, V. P., & Mullen, P. D. (1995). Relapse prevention among women who stop smoking early in pregnancy. A randomized clinical trial of self-help intervention. *American Journal of Preventive Medicine*, 11, 178 - 184.
- Falloon, I., Boyd, J., & McGill, C. (1982). Family management in the prevention of exacerbations of schizophrenia: A controlled study. *New England Journal of Medicine*, 306, 1437-1440.
- Farrow, J. A. (1987). The use of vignette analysis of dangerous driving situations involving alcohol to differentiate adolescent DWI offenders and High School drivers. *American Journal of Drug and Alcohol Abuse*, 13, 157-174.
- Foon, A. E. (1988). The effectiveness of drinking-driving treatment programs: a critical review. *International Journal of the Addictions*, 23, 151-174.
- Gendreau, P., Goggin, C., & Fulton, B. (2000). Principles of effective programming with offenders. *Forum on Corrections Research*, 8, 38-40.

- Gendreau, P., Little, T., and Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34, 575-607.
- Glasgow, R. E., & Lichtenstein, E. (1987). Long-term effects of behavioral smoking cessation interventions. *Behavior Therapy*, 18, 297-324.
- Goldstein, A. (1988). *The Prepare curriculum: Teaching prosocial competencies*. Research Press: Illinois.
- Goldstein, M. (1995). Psychoeducation and relapse prevention. *International Clinical Psychopharmacology*, 9, 59-69.
- Goldstein, M., Niaura, R., Follick, M., & Abrahms, D. (1989). Effects of behavioral skills training and schedule of nicotine gum administration on smoking cessation. *American Journal of Psychiatry*, 146, 56-60.
- Goldstein, M., Rodnick, E., Evans, J., May, P., & Steinberg, M. (1978). Drug and family therapy in the aftercare of acute schizophrenics. *Archives of General Psychiatry*, 35, 1169-1177.
- Gordon, A., & Porporino, F. (1991) The management and treatment of sex offenders. *Corrections Today*, 53, 162-168.
- Gorski, T. T. (1990). The Cenaps model of relapse prevention: Basic principles and procedures. *Journal of Psychoactive Drugs*, 22, 125-133.
- Gossop, M., Green, L., Phillips, G., & Bradley, B. (1990). Factors predicting outcome among opiate addicts after treatment. *British Journal of Clinical Psychology*, 29, 209-216.
- Gould, L. A., & Gould K. H. (1992). First-time and multiple-DWI offenders: A comparison of criminal history records and BAC levels. *Journal of Criminal Justice*, 20, 527-539.



- Grilo, C., Shiffman, S., & Wing, R. (1989). Relapse crises and coping among dieters. *Journal of Consulting and Clinical Psychology, 57*, 488-495.
- Gruder, C L., Mermelstein, R J., Kirkendol, S., Hedeker, D., Wong, S C., Schreckengost J., Warnecke, R B., Burzette. T., & Miller, T Q. (1993). Effects of social support and relapse prevention training as adjuncts to a televised smoking-cessation intervention. *Journal of Consulting and Clinical Psychology, 61*, 113-120.
- Haaga, D., & Stewart, B. (1992). Self-efficacy for recovery from a lapse after smoking cessation. *Journal of Consulting and Clinical Psychology, 60*, 24-28.
- Hall, S. M., Rugg, D., Tunstall, C., & Jones, R. (1984). Preventing relapse to cigarette smoking by behavioral skill training. *Journal of Consulting and Clinical Psychology, 57*, 81-86.
- Hall, S. M., Tunstall, C., Ginsberg, D., Benowitz, N. L., & Jones, R. T. (1987). Nicotine gum and behavioral treatment: A placebo controlled trial. *Journal of Consulting and Clinical Psychology, 55*, 603-605.
- Heather, N., Rollnick, S., & Winton, M. (1983). A comparison of objective and subjective measures of alcohol dependence as predictors of relapse following treatment. *British Journal of Clinical Psychology, 22*, 11-17.
- Heather, N., Stallard, A., & Tebbutt, J. (1991). Importance of substance cues in relapse among heroin users: Comparison of two methods of investigation. *Addictive Behaviors, 16*, 41-49.
- Hiss, H., Foa E. B., & Kozak, M. J. (1994). Relapse prevention program for treatment of obsessive-compulsive disorder. *Journal of Consulting and Clinical Psychiatry, 62*, 809-817.

- Hogarty, G., Anderson, C., Reiss, D., Kornblith, S., Greenwald, D., Ulrich, R., & Carter, M. (1986). Family psychoeducation, social skills training and maintenance chemotherapy in the aftercare of schizophrenia. *Archives of General Psychiatry*, 43, 633-642.
- Hogarty, G., Anderson, C., & Reiss, D. (1986). Family psychoeducation, social skills training and maintenance chemotherapy in the aftercare of schizophrenia. *Archives of General Psychiatry*, 43, 633 - 642.
- Holubowycz, O., & McLean, J. (1995). Demographic characteristics, drinking patterns and drink-driving behavior of injured male drivers and motorcycle riders. *Journal of Studies on Alcohol*, 56, 513-521.
- Holubowycz, O., Kloeden, C. N., & McLean, A. J. (1994). Age, sex and blood alcohol concentration of killed and injured drivers, riders and passengers. *Accident Analysis and Prevention*, 26, 483-492.
- Homel, R. (1994). Drink-driving law enforcement and the legal blood limit in New South Wales. *Accident Analysis and Prevention*, 26, 147-155.
- Hudson, S. M., & Ward, T. (1996). Relapse prevention: Future directions. *Sexual Abuse: A Journal of Research and Treatment*, 8, 249-256.
- Hudson, S M., & Ward, T. (1999). Relapse prevention: Assessment and treatment implications. In W. Pithers, S. Hudson, & T. Ward (Eds), *Remaking relapse prevention with sex offenders: A sourcebook*. In press.
- Hudson, S M., Ward, T., & McCormack, J. (1999). Relapse prevention: Assessment and treatment implications. In W. Pithers, S. Hudson, & T. Ward (Eds), *Remaking relapse prevention with sex offenders: A sourcebook*. In press.
- Hunt, W. A., Barnett, L. W., & Branch, L. G. (1971). Relapse rates in addiction programs. *Journal of Clinical Psychology*, 27, 455-456.

- Ito, J., Donovan, D., & Hall, J. (1988). Relapse Prevention in alcohol aftercare: Effects on drinking outcome, change process, and aftercare attendance. *British Journal of Addiction*, 83, 171-181.
- Jessor, R. (1987). Risky driving and adolescent problem behaviour: An extension of problem-behaviour theory. *Alcohol Drugs and Driving*, 3, 1-11.
- Johnson, V., & White, H R. (1989). An investigation of factors related to intoxicated driving behaviors among youth. *Journal of Studies on Alcohol*, 50, 320-330.
- Jones, S. L., & Lanyon, R. I. (1981). Relationship between Adaptive Skills and Outcome of Alcoholism Treatment. *Journal of Studies on Alcohol*, 42, 521-525.
- Kadden, R., Cooney, N., Getter, H., & Litt, M. (1989). Matching alcoholics to coping skills or interactional therapies: Posttreatment results. *Journal of Consulting and Clinical Psychology*, 57, 698-704.
- Killen, J., Fortmann, S., Newmann, B., & Varady, A. (1990). Evaluation of a treatment approach combining nicotine gum with self-guided behavioral treatments for smoking relapse prevention. *Journal of Consulting and Clinical Psychology*, 58, 85-92.
- Killen, J., Maccoby, N., and Taylor, C. (1984). Nicotine gum and self-regulation training in smoking relapse prevention. *Behavior Therapy*, 15, 234-248.
- King, A. C., & Frederiksen, L. W. (1984). Low-cost strategies for increasing exercise behavior: Relapse preparation training and social support. *Behavior Modification*, 8, 3-21.
- Kinkade, P., Leone, M C., & Wacker, T. (1992). Probation and the drunk driver: The cost of being "Madd". *Federal Probation*, 56, 6-15.

- Kivlahan, D., Coppel, D., Fromme, K., Williams, E., & Marlatt, G. (1990). Secondary prevention of alcohol problems in young adults at risk. In K. Craig, & S. Weiss (Eds.), *Prevention and early intervention: Biobehavioural Perspectives*. New York: Springer.
- Kleinbaum, D. (1996). *Survival analysis: A self learning text*. New York: NY, Springer – Verlag.
- Knight, R. G., Chisholm, B., Paulin, J. M., & Waal-Manning H. J. (1988). The Spielberger Anger Expression Scale: Some psychometric data. *British Journal of Clinical Psychiatry*, 152, 80-90.
- Lang, A., Goeckner, D., Adesso, V., & Marlatt, G. A. (1975). The effects of alcohol on aggression in male social drinkers. *Journal of Abnormal Psychology*, 84, 508-518.
- Lash, B. (1996). Census of prison inmates 1995. *Ministry of Justice Report* Wellington, New Zealand.
- Laws, D. R. (1989). *Relapse prevention with sex offenders*. New York: Guilford Press.
- Laws, D R. (1995). A theory of relapse prevention. In O'Donohue, W., & Krasner, L. (Eds), *Theories of behavior therapy: Exploring behavior change* (pp. 445-473). American Psychological Association, Washington DC, 1995.
- Leff, J., Kuipers, L., Berkowitz, R., Eberlein -Fries, R., & Sturgeon, D. (1982). A controlled trial of social intervention in the families of schizophrenic patients. *British Journal of Psychiatry*, 141, 121-134.
- Liban, C B., Vingilis, E R., & Blefgen, H. (1987). The Canadian Drinking-Driving countermeasure experience. *Accident Analysis and Prevention*, 19, 159-181.

- Liberman, R., & Evans, C. (1985). Behavioral rehabilitation for chronic mental patients. *Journal of Psychopharmacology*, 5, 85-145.
- Lichtenstein, E., Antonuccio, D., & Rainwater, G. (1977). *Unkicking the habit: The resumption of cigarette smoking*. Paper presented at the annual meeting of the Western Psychological Association, Seattle, WA.
- Lichtenstein, E., & Glasgow, R. E. (1992). Smoking cessation: What have we learned over the past decade? *Journal of Consulting and Clinical Psychology*, 60, 518-527.
- Lipsey, M.W. (1992). Juvenile delinquency treatment: A meta-analytic inquiry into the variability of effects. In T. D. Cook, H. Cooper, D. S. Cordray, H. Hartmann, L. V. Hedges, R. J. Light, T. A. Louis, and F. Mosteller (Eds.), *Meta-analysis for explanation* (pp. 83-127). New York: Russell Sage Foundation.
- Lipsey, M. W., & Wilson, D. B. (1993). The efficacy of psychological, educational and behavioral treatment: Confirmation from meta-analysis. *American Psychologist*, 12, 1181-1209.
- Little, R., & Clontz, K. (1994). Young, drunk, dangerous and driving: underage drinking and driving research findings. *Journal of Alcohol and Drug Education*, 39, 37-49.
- Losel, F. (1996). What recent meta-evaluations tell us about the effectiveness of coorrectional treatment. In G. Davies, S. Lloyd-Bostock, M. McMurren, & C. Wilson (Eds.), *Psychology, Law and Criminal Justice: International Developments in Research and Practice* (pp. 537-554). Berlin: W. de Gruyter.
- Mann, R. E., Leigh, G., Vingilis, E. R., & DeGenova, K. (1983). A critical review on the effectiveness of drinking-driving rehabilitation programmes. *Accident, Analysis, & Prevention*, 15, 441-461.

- Mann, R. E., Vingilis, E. R., Gavin, D., Adlaf, E., & Anglin, L. (1991). Sentence severity and the drinking driver: Relationships with traffic safety outcome. *Accident Analysis and Prevention*, 23, 483-491.
- Marcus, B. H., & Stanton, A. L. (1993). Evaluation of relapse prevention and reinforcement interventions to promote exercise adherence in sedentary females. *Research Quarterly for Exercise and Sport*, 64, 447-452.
- Marlatt, G. A. (1985a). Relapse prevention: Theoretical rationale and overview of the model. In G. A. Marlatt & J. R. Gordon (Eds.), *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors* (pp.3-70). New York: Guilford Press.
- Marlatt, G. A. (1985b). Cognitive factors in the relapse process. In G. A. Marlatt & J. R. Gordon (Eds.), *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors* (pp.128-200). New York: Guilford Press.
- Marlatt, G. A., Curry, S., & Gordon, J. R. (1988). A longitudinal analysis of unaided smoking cessation. *Journal of Consulting and Clinical Psychology*, 56, 715-720.
- Marlatt, G. A., & George, W. (1998). Relapse prevention and the maintenance of optimal health. In S. Shumaker, E. B. Schron (Eds), *The handbook of health behavior change (2nd ed.)*. (pp. 33-58). New York, NY, USA: Springer Publishing Co, Inc.
- Marlatt, G. A., & Gordon, J. R. (Eds.). (1985). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*. New York: Guilford Press.
- Marlatt, G. A., & Gordon, J. R. (1991). Relapse prevention: Future directions. In M. Gossop (Ed.), *Relapse in addictive behaviour* (pp. 278-291). Beckinham, Kent: Croomhelm.

- Marques, J., Day, D., Nelson, C., & Miner, M. (1989). The Sex Offender Treatment and Evaluation Project: California's relapse prevention program. In D. Laws (Ed), *Relapse prevention with sex offenders* (pp. 247-267). New York: Guilford.
- Marshall, W. L., & Anderson, D. (1999). An Evaluation of the benefits of relapse prevention in sexual offenders. In W. Pithers, S. Hudson, & T. Ward (Eds), *Remaking relapse prevention with sex offenders: A sourcebook*. In press.
- Marshall, W. L., & Barbaree, H. E. (1988). The long-term evaluation of a behavioral treatment program for child molesters. *Behavior Research and Therapy*, 26, 499-511.
- Marshall, W. L, Hudson, S., & Ward, T. (1992). Sexual deviance. In P.H. Wilson (Ed.) *Principles and practice of relapse prevention* (pp. 235-254). New York: Guilford Press.
- Marshall, W. L., Jones, R., Ward, T., Johnston, P., & Barbaree, H. E. (1991). Treatment outcome with sex offenders. *Clinical Psychology Review*, 11, 465-485.
- Martin, J., & Dubbert, P. (1982). Exercise applications and promotion in behavioral medicine: Current status and future directions. *Journal of Consulting and Clinical Psychology*, 30, 1004-1017.
- Martin, J., Dubbert, P., Katell, A., Thompson, J., Raczynski, J., Lake, M., Smith, P., Webster, J., Sikora, T., & Cohen, R. (1984). Behavioral control of exercise in sedentary adults: Studies 1 through 6. *Journal of Consulting and Clinical Psychology*, 52, 795-811.
- Martin, S. Annan, S., & Forst, B. (1993). The special deterrent effects of a jail sanction on first-time drunk drivers: A quasi experimental study. *Accident Analysis and Prevention*, 25, 561-568.

- Mayer, R. E., & Treat, J. R. (1977). Psychological, social and cognitive characteristics of high risk driving: A pilot study. *Accident Analysis and prevention*, 18, 139-150.
- McAuliffe, W. E. (1990). A randomised controlled trial of recovery training and self-help for opiate addicts in New England and Hong Kong. *Journal of Psychoactive Drugs*, 22, 197-209.
- McCord, J. (1984). Drunken drivers in longitudinal perspective. *Journal of Studies on Alcohol*, 45, 316-320.
- McCormick I. A., Hahn M., & Walkey, F. H. (1984). Reliability and normative data for the simple rathus assertiveness schedule. *New Zealand Journal of Psychology*, 13, 69-70.
- McKay, J. R., Alterman, A. I., Cacciola, J. S., Rutherford, M. J., O'Brien, C. P., & Koppenhaver J. (1997). Group counselling versus individualised relapse prevention aftercare following intensive outpatient treatment for cocaine dependence: initial results. *Journal of Consulting and Clinical Psychology*, 65, 778-788.
- McKay, J. R., Maisto, S., & O'Farrell, T. (1993). End-of-treatment self-efficacy, aftercare and drinking outcomes of alcoholic men. *Alcoholism Clinical and Experimental Research*, 17, 1078-1083.
- McKnight, A. J., & Tippetts, A. S. (1997). Accident prevention versus recidivism prevention courses for repeat traffic offenders. *Accident Analysis and Prevention*, 29, 25-31.
- McLean, A., & Grace, R. (1998). *Offender management overview: A proposal for cost-effective management of offenders*. Department of Corrections, New Zealand Report.



- McMillen, D. C., & Smith, S. M. (1989). The effects of alcohol, expectancy and sensation seeking on driving risk taking. *Addictive Behaviours*, 14, 477-483.
- Meichenbaum, D. (1975). A self instructional approach to stress management: A proposal for stress inoculation training. In C. Spielberger & I. Sarason (Eds.), *Stress and Anxiety, Vol 2*. New York: John Wiley.
- Michelson, L. (1979). The effectiveness of an alcohol safety school in reducing recidivism of drinking drivers. *Journal of Studies on Alcohol*, 40, 1060-1064.
- Miller, W. R., & Rollnick, S. (1991). *Motivational interviewing: Preparing people to change addictive behavior*. New York, NY, Guilford Press.
- Miller, W. R., Westerberg, V. S., Harris, R. J., & Tonigan, J. S. (1996). What predicts relapse? Prospective testing of antecedent models. *Addiction*, 91, (Supplement), S155-S171.
- Ministry of Justice (1997). *Proposed changes to legislation regarding driving offenders*. Ministry of Justice Discussion paper.
- Mirrlees-Black, C. (1994). Disqualification from driving: An effective penalty? *Research and Planning Unit Paper 74*. London: Home Office.
- Mitchell, C., & Stuart, R. (1984). Effect of self-efficacy on dropout from obesity treatment. *Journal of Consulting and Clinical Psychology*, 52, 1100-1101.
- Nevid, J. S., & Rathus, S. A. (1978). Multivariate and normative data pertaining to the RAS with the college population. *Behavior Therapy*, 9, 675.
- Nichols, J., & Ross, H. (1989). The effectiveness of legal sanctions in dealing with drunk drivers. *Surgeon General: workshop on drunk driving: Background paper*. (pp. 93-112) Rockville MD: US Dept of Health & Human Services: Office of Surgeon General.

- Nochajski, T. H., Miller, B. A., Wieczorek, W. F., & Whitney, R. (1993). The Effects of a drinker-driver program: Does criminal history make a difference? *Criminal Justice and Behavior*, 20, 174-189.
- Novaco, R. (1977). A stress inoculation approach to anger management in training law enforcement officers. *American Journal of Community Psychology*, 5, 327-346.
- Novaco, R., & Welsh, W. (1989). Anger disturbances: Cognitive mediation and clinical prescriptions. In K. Howells & C. Hollin (Eds.), *Clinical Approaches to Violence* (pp. 39-59). New York: John Wiley & Sons.
- Oei, T. P. S., & Jackson, P. R. (1982). Social skills and cognitive behavioral approaches to the treatment of problem drinking. *Journal of Studies on Alcohol*, 43, 532-545.
- O'Farrell, T. J., Choquette, K. A., Cutter, S. G., Brown, E. D., & McCourt, W. F. (1993). Behavioral marital therapy with and without additional couples relapse prevention sessions for alcoholics and their wives. *Journal of Studies on Alcohol*, 54, 652-666.
- O'Farrell, T. J., Choquette K. A., & Cutter, H. S. G. (1998). Couples relapse prevention sessions after behavioral marital therapy for male alcoholics: Outcomes during the three years after starting treatment. *Journal of Studies on Alcohol*, 59, 357-370.
- O'Malley, S., Jaffe, A., Chang, G., Rode, S., Schottenfeld, R., Meyer, R., & Rounsaville, B. (1992). Naltrexone and coping skills therapy for alcohol dependence: A controlled study. *Archives of General Psychiatry*, 49, 881-887.

- Omenn, G S., Thompson, B., Sexton, M., Hessol, N., Breitenstein, B., Curry, S., Michnich, M., & Peterson, A. (1988). A randomized comparison of worksite-sponsored smoking cessation programs. *American Journal of Preventive Medicine*, 4, 261-267.
- Osgood, D. W., Johnstone, L. D., O'Malley, P. M., & Bachman, J. G. (1988). The generality of deviance in adolescence and early adulthood. *American Sociological Review*, 53, 81-93.
- Österberg, E. (1992). Effects of alcohol control measures on alcohol consumption. *International Journal of the Addictions*, 27, 209-225.
- Overholser, J., & Fine, M. (1994). Cognitive-behavioral treatment of excessive interpersonal dependency: A four-stage psychotherapy model. *Journal of Cognitive Psychotherapy*, 8, 55-70.
- Peck, R. C., Sadler, D. D., & Perrine, M. W. (1985). The comparative effectiveness of alcohol rehabilitation and licensing control actions for drunk driving offenders: A review of the literature. *Alcohol, Drugs, and Driving*, 1, 15-38.
- Perri, M., McAdoo, W., Spevak, P., & Newlin, D. (1984), Effect of a multicomponent maintenance program on long-term weight - loss. *Journal of Consulting and Clinical Psychology*, 52, 480-481.
- Perri, M., McAllister, D., Gange, J., Jordan, R., McAdoo, W., & Nezu, A. (1988). Effects of four maintenance programs on the long-term management of obesity. *Journal of Consulting and Clinical Psychology*, 56, 529-534.
- Perri, M., Shapiro, R., Ludwig, W., Twentyman, C., & McAdoo, W. (1984). Maintenance strategies for the treatment of obesity: An evaluation of relapse prevention training and post treatment contact by mail and telephone. *Journal of Consulting and Clinical Psychology*, 52, 404-413.

- Pithers, W. D. (1991). Relapse prevention with sexual aggressors. *Forum on Corrections Research*, 3, 20-24.
- Pithers, W., Marques, J., Gibat, C., & Marlatt, G. (1983). Relapse prevention with sexual aggressives: A self control model of treatment and maintenance of change. In J.G. Greer & I. R. Stuart (Eds.), *The sexual aggressor: Current perspectives on treatment* (pp. 214-234). New York: Van Nostrand Reinhold.
- Pithers, W., Martin, G., & Cumming, G. (1989). Vermont treatment programme for sexual aggressors. In D. R. Laws (Ed.), *Relapse prevention with sex offenders* (pp. 292-310). New York: Guilford Press.
- Pliner, P., & Cappell, H. (1974). Modification of affective consequences of alcohol: A comparison of social and solitary drinking. *Journal of Abnormal Psychology*, 83, 418-425.
- Prisgrove, P. (1993). A relapse prevention approach to reducing aggressive behaviour In: Gerull, S., & Lucas, W. (Eds) *Serious violent offenders: sentencing, psychiatry and law reform: Proceedings of a conference held 29-31 October 1991*. Canberra: Australian Institute of Criminology, (pp. 179-191).
- Prochaska, J., DiClemente, C., & Norcross, J. (1992). In search of how people change: Applications to addictive behaviors. *American Psychologist*, 47, 1102-1114.
- Rathus, S. A. (1973). A 30-Item schedule for assessing assertive behavior. *Behavior Therapy*, 4, 398-406.
- Rawson, R. A., Obert, J. L., McCann, M. J., Smith, D. P., & Ling, W. (1990). Neurobehavioral treatment for cocaine dependency. *Journal of Psychoactive Drugs*, 22, 159-171.

- Rist, F., & Watzl, H. (1983). Self assessment of relapse risk and assertiveness in relation to treatment outcome of female alcoholics. *Addictive Behaviours*, 8, 121-127.
- Roffman, R., Stephens, R., Simpson, E., & Whittaker, D. (1990). Treatment of marijuana dependencies: Preliminary results. *Journal of Psychoactive Drugs*, 22, 129-137.
- Ross, R., & Fabiano, E. (1985). *Time to think: A cognitive model of delinquency prevention and offender rehabilitation*. Johnson City, Tennessee: Institute of Social Sciences and Arts, Inc.
- Sandahl, C. (1984). Determinants of relapse among alcoholics: A cross - cultural replication study. *International Journal of the Addictions*, 19, 833-848.
- Saunders, B., & Allsop, S. (1987). Relapse: a psychological perspective. *British Journal of Addiction*, 82, 417-429.
- Saunders, B., & Allsop, S. (1989). Relapse: A critique. In M. Gossop (Ed.), *Relapse and addictive behaviours*. London: Tavistock.
- Schoeneman, T., Hollis, J., Stevens, V., Fischer, K., & Cheek, P. (1988). Recovering stride versus letting it slide: Attributions for "slips" following smoking cessation treatment. *Psychology and Health*, 2, 335-347.
- Scriven, T. (1993). *Anger Management: A treatment manual*. Unpublished manuscript.
- Secker-Walker, R., Solomon, L., Flynn, B., Skelly, J., Lepage, S., Goodwin, G., & Mead, P. (1995). Smoking relapse prevention counselling during prenatal and early postnatal care. *American Journal of Preventive Medicine*, 11, 86-93.

- Secker-Walker, R., Solomon, L., Flynn, B., Skelly, J., & Mead, P. (1998). Smoking during Pregnancy: A trial of Coordinated advice from physicians and individual counselling. *American Journal of Preventive Medicine*, 15, 25-31.
- Shiffman, S. (1982). Relapse following smoking cessation: A situational analysis. *Journal of Consulting and Clinical Psychology*, 50, 71-86.
- Shiffman, S. (1984). Coping with temptations to smoke. *Journal of Consulting and Clinical Psychology*, 52, 261-267.
- Shiffman, S. (1989a). Conceptual issues in the study of relapse. In Gossop, M. (Ed) *Relapse and Addictive Behaviour*. London Tavistock/Routledge.
- Shiffman, S. (1989b). Trans-situational consistency in smoking relapse. *Health Psychology*, 8, 471-486.
- Shiffman, S., Hickcox, M., Paty, J. A., Gnys, M., Kassel, J. D., & Richards, T. J. (1996). Progression from smoking lapse to relapse: Prediction from abstinence violation effects, nicotine dependence, and lapse characteristics. *Journal of Consulting and Clinical Psychology*, 64, 993-1002.
- Sitharthan, T., & Kavanagh, D. (1990). Role of self-efficacy in predicting outcomes from a treatment programme for controlled drinking. *Drug and Alcohol Dependence*, 27, 87-94.
- Snowden, L. R., & Campbell, D. R. (1984). Reasons for drinking among problem drinker-drivers: Client and counsellor reports during treatment. *Addictive Behaviours*, 9, 391-394.
- Spielberger C. D. (1983). *State trait Anxiety Inventory*. Palo Alto CA.: Consulting Psychologists Press.
- Spielberger, C. (1991). *State - Trait Anger Expression Inventory Manual*. Psychological Assessment Resources Inc. Florida.

- Spier, P., Norris, M., & Southey, P. (1993). *Convictions and sentencing of offenders in New Zealand: 1982 to 1991*. Wellington, NZ: Policy and Research Division, Department of Justice.
- Stephens, R. S., Roffman, R. A., & Simpson, E. E. (1994). Treating adult marijuana dependence: A test of the relapse prevention model. *Journal of Consulting and Clinical Psychology, 62*, 92-99.
- Stephens, R. S., Wertz, J. S., & Roffman, R. A. (1993). Predictors of marijuana treatment outcomes: The role of self-efficacy. *Journal of Substance Abuse, 5*, 341-353.
- Sternberg, B. (1985). Relapse in weight control: Definitions, processes, and prevention strategies. In G. A. Marlatt and J. Gordon (Eds.), *Relapse prevention maintenance strategies in the treatment of addictive behaviors*. New York: The Guilford Press.
- Stevens, V., & Hollis, J. (1989). Preventing smoking relapse, using an individually tailored skills-training technique. *Journal of Consulting and Clinical Psychology, 57*, 420-234.
- Stevens, V., Glasgow, R., Hollis, J., Lichtenstein, E., & Vogt, T. (1993). A smoking cessation intervention for hospital patients. *Medical Care, 31*, 65-72.
- Stewart, J., DeWit, H., & Eikelboom, R. (1984). The role of unconditioned and conditioned drug effects in the self-administration of opiates and stimulants. *Psychological Review, 91*, 251-268.
- Supnick, J., & Colletti, G. (1984). Relapse coping and problem solving training following treatment for smoking. *Addictive Behaviours, 9*, 401-404.
- Swisher, J. D. (1988). Problem-behavior theory and driving risk. *Alcohol, Drugs and Driving, 4*, 205-219.

- Tarrier, N., Barrowclough, C., & Porceddu, K. (1988). The community management of schizophrenia: A controlled trial of a behavioral intervention with families to reduce relapse. *British Journal of Psychiatry*, 153, 532-542.
- Tie, D. (1998). *Evaluation of the Video Anger Management Programme (VAMP)*. Unpublished master's thesis, University of Canterbury.
- Tucker, J. A., Vuchinich, R. E., & Gladsjo, J. A. (1991). Environmental influences on relapse in substance use disorders. *International Journal of the Addictions*, 25, 1017-1050.
- Vingilis, E. (1983). Drinking drivers and alcoholics: Are they from the same population? In R.G. Smart et al. (Eds.) *Research Advances in Alcohol and Drug Problems, Volume 7* (pp. 299-342). Plenum Press: New York.
- Vingilis, E., & Adlaf, E. (1990). The structure of problem behaviour among Ontario high school students: A confirmatory-factor analysis. *Health Education Research*, 5, 151-160.
- Vingilis, E. R., & Mann, R. E. (1986). Towards an interactionist approach to drinking – driving behaviour: Implications for prevention and research. *Health Education Research*, 1, 273-288.
- Voas, R. (1986). Evaluation of jail as a penalty for drunken driving. *Alcohol, Drugs and Driving: Abstracts and Reviews*, 2, 47-70.
- Wallace, B. C. (1990). Treating crack cocaine dependence: The critical role of relapse prevention. *Journal of Psychoactive Drugs*, 22, 149-157.
- Waller, P. F. (1985). Licensing and other controls of the drinking driver. *Journal of Studies on Alcohol, Supplement*, 10, 150-160.



- Wanigaratne, S., Wallace, W., Pullin, J., Keaney, F., & Farmer, R. (1990). *Relapse Prevention for Addictive Behaviours: A Manual for Therapists*. Blackwell Scientific Publications: Oxford.
- Ward, T. (1992). The *abstinence violation effect in child molesters*. Unpublished doctoral dissertation, University of Canterbury.
- Ward, T., & Hudson, S M. (1996). Relapse prevention: A critical analysis. *Sexual Abuse: A Journal of Research and Treatment*, 8, 177-200.
- Ward, T., Hudson, S M., & Keenan, T. (1998). A self-regulation model of the sexual offence process. *Sexual Abuse: A Journal of Research and Treatment*, 10, 141-157.
- Washton, A. M., & Stone-Washton, N. (1990). Abstinence and relapse in outpatient cocaine addicts. *Journal of Psychoactive Drugs*, 22, 135-147.
- Weiner, B. (Ed.) (1974). *Achievement motivation and attribution theory*. Morrison, N.J.: General Learning Press.
- Wells Parker, E., Anderson, B. J., McMillen, D. I., & Landrum, J. W. (1989). Interactions among DUI offender characteristics and traditional intervention modalities. *British Journal of Addiction*, 84, 381-390.
- Wells-Parker, E., Bangert-Drowns, R. W., & Williams, M. (1995). The past is prologue: Determining directions for research on DUI remediation from meta-analysis. *Addiction*, 90, 1595-1601.
- Wells-Parker, E., & Cosby P. J. (1988). Behavioural and employment consequences of driver's licence suspension for drinking driving offenders. *Journal of Safety Research*, 19, 5-20.

- Wells-Parker, E., Cosby, P. L., & Landrum, J. W. (1986). A typology for drinking driving offenders: Methods for classification and policy implications. *Accident Analysis and Prevention*, 18, 443-453.
- West, R. (1995). Towards unravelling the confounding of deviant driving, drink driving and traffic accident liability. *Criminal Behaviour and Mental Health*, 5, 452-462.
- Whisman, M. (1990). The efficacy of booster maintenance sessions in behaviour therapy: Review and methodological critique. *Clinical Psychology Review*, 10, 155-170.
- Wieczorek, W., & Miller, B. (1992). Preliminary typology designed for treatment matching of driving-while-intoxicated offenders. *Journal of Consulting and Clinical Psychology*, 60, 757-765.
- Williams, A. F., & Wells, J. K. (1993). Factors associated with high blood alcohol concentrations among fatally injured drivers in the United States 1991. *Alcohol, Drugs and Driving*, 9, 87-96.
- Williams, R. L., Hagen, R. E., & McConnell, E. J. (1984). A driving record analysis of suspension and revocation effects on the drinking-driving offender. *Accident Analysis and Prevention*, 16, 333-338.
- Wilson, J. R. (1992). Convicted impaired drivers and high-risk drivers: How similar are they? *Journal of Studies on Alcohol*, 53, 335-344.
- Wilson, L. (1996). *A model of the reoffence process of recidivist driving while disqualified offenders in New Zealand*. Unpublished master's thesis, University of Canterbury.
- Wilson, L., Ward, T., & Bakker, L. (1998). A descriptive model of the relapse process in disqualified drivers. *Behaviour Change*, 16, 111-126.

- Wilson, P. H. (1992). *Principles and practice of relapse prevention*. The Guilford Press: New York.
- Wilson, R. J., & Jonah, B. A. (1985). Identifying drivers among the general driving population. *Journal of Studies on Alcohol*, 46, 531-537.
- Wilson, R. J., & Jonah, B. A. (1988). The application of problem behaviour theory to the understanding of risky driving. *Alcohol, Drugs and Driving*, 4, 173-191.
- Zamble, E., & Quinsey, V. (1991). *Dynamic and behavioral antecedents to recidivism: A retrospective analysis*. Correctional Service of Canada Research Report no. R-17.
- Zamble, E., & Quinsey, V. (1997). *The criminal recidivism process* Cambridge University Press: Cambridge.
- Zillman, D. (1979). *Hostility and aggression*. Hillsdale, NJ: Erlbaum.

### **Appendix 1 - The Driving Offender Treatment Scale**

The following document was prepared as a report for the Department of Corrections and has been included to provide the reader with information about the development of the DOT scale and its psychometric properties.

## Introduction

### **Why are Driving Offenders Important?**

Driving offenders are important because of their contribution to road fatalities and law enforcement costs. In 1996, 515 people died on New Zealand roads giving New Zealand the sixth worst road safety record of all OECD countries. Traffic crashes are the leading cause of death in young adults with even greater numbers being permanently disabled. Among OECD countries, New Zealand crash statistics indicate that it has the fifth worst road toll for drivers aged between 15-24; 27% of the drivers killed and 35% of the drivers injured were from within this age group even though only 15% of the population is aged 15-24. (Ministry of Justice; 1997)

The costs through law enforcement are equally substantial. In 1997, over 138,000 offenders were convicted of traffic offenses. Over 7,600 had driving while disqualified (DWD), and 18,000 had alcohol related driving offenses as their most serious offense. When sentences are considered the cost to the Department of Corrections associated with driving offenders becomes apparent; over 4,500 were given periodic detention; 1,200 were given supervision; and 1,300 were sentenced to prison (Bakker, 1998).

Over 1,000 of the people sentenced to prison had a DWD offense. While it is clear that most disqualified drivers have a number of alcohol related driving convictions (over 90% became disqualified by way of alcohol impaired driving, (Bailey, 1993), DWD offenses are, for most of these individuals, more numerous. This strongly suggests that DWD is a significant problem in its own right. Indeed the lack of effectiveness of current interventions is seen in that of 7,669 1997 DWD offenders 4,701 (61%) had at least one previous disqualified driving offense and 1,173 (15%) had more than five previous offenses.

A key question is "why do these people continue to drive despite the potentially severe consequences of doing so (e.g., up to five years imprisonment)?"

### **What is Important in Treating Disqualified Drivers?**

There are several characteristics of disqualified drivers that are considered relevant to their offending, including: a psychological "need" or

compulsion to drive (Mirrlees-Black, 1994, Donovan, 1983); emotional changeability (Donovan, 1983); thrill seeking (Donovan, 1983); overt and covert expressions of anger (Donovan, Marlatt, & Salzberg, 1983); feelings of depression (Donovan, Marlatt, & Salzberg, 1983); and acute and chronic stress (Tsuang, Boor, & Fleming, 1985).

These characteristics have led to suggestions that driving offenders can be classified into subgroups that reflect different treatment needs.

### Sub-Groups of Driving Offenders

Donovan, Marlatt and Salzberg (1983) identified several groups of drivers based on measures of alcohol use, demographic information, personality and attitudes to driving.

One group was characterised by high levels of depression and resentment, together with low levels of assertiveness, emotional adjustment and perceived control. A second group was characterised by the highest levels of driving related aggression, competitive speed, sensation seeking, assaultiveness, verbal hostility and irritability. A third group scored highest for driving to reduce tension and had low levels of depression and resentment.

A similar study was conducted by Wells-Parker, Cosby and Landrum(1986) who used traffic and criminal history to establish subgroups of drivers. They found five groups among which were: young “risky” drivers who had few alcohol related convictions, a small group of chronic offenders who had large numbers of license violations, a small chronic group who had large numbers of alcohol related offenses.

One reason for the relative ineffectiveness of interventions may be a failure to modify treatment to suit the characteristics of these subgroups of drivers. The interventions employed for the license violators would be expected to be different than for those with alcohol related convictions. But, before adequate intervention strategies can be found, a greater degree of clarity about the causal relationships of the different characteristics and the subgroups of driving offenders is necessary. Understanding and measuring these will help focus intervention targets and strategies.

### Models of Driving Offending

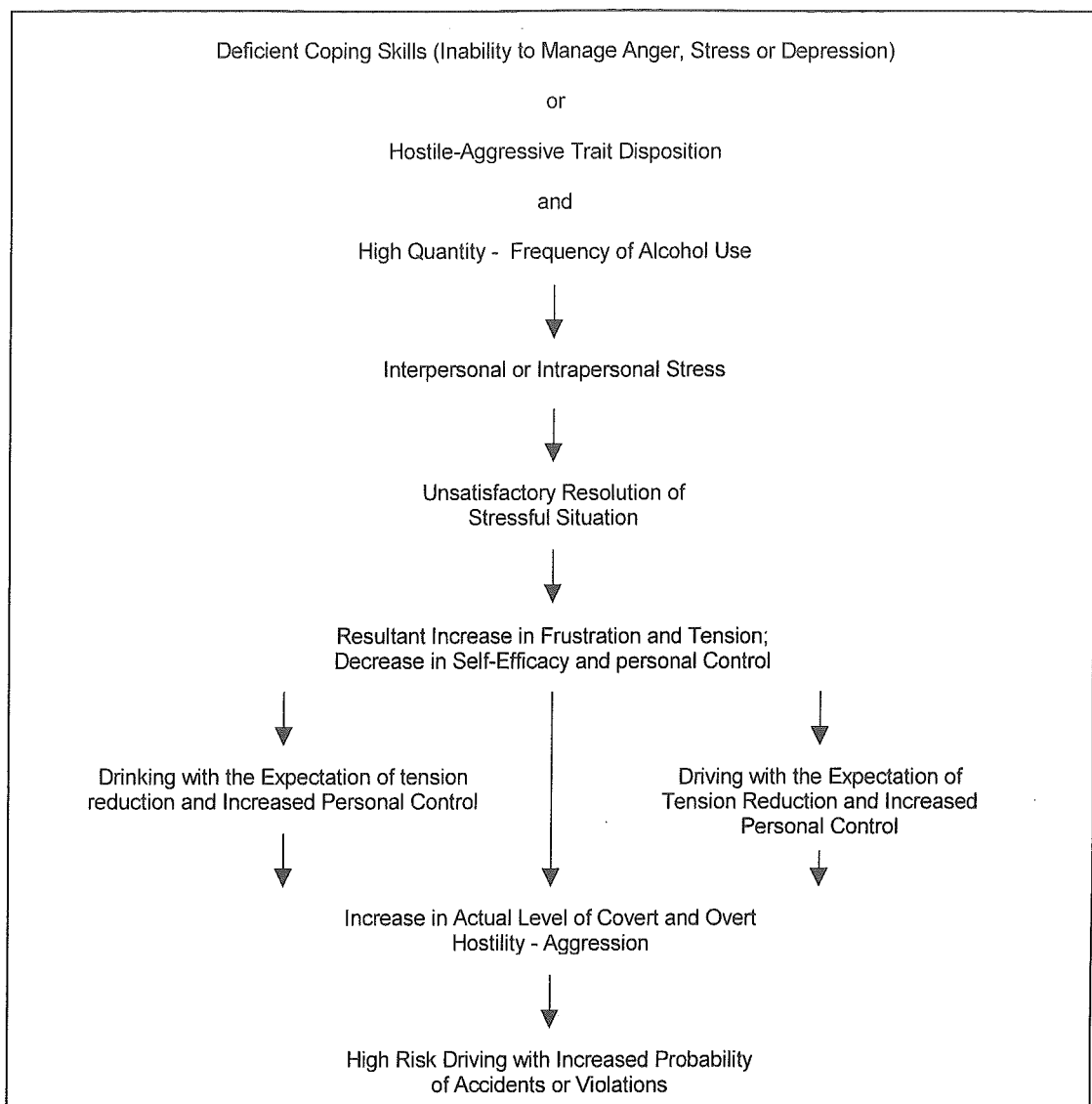
Conceiving of DWD offenders as a separate group and targeting self control of driving behaviour may therefore provide a more effective treatment than traditional alcohol treatment. In part this is because the problem may not be with alcohol, but it may well be that these offenders are using driving to cope with problems, albeit inappropriately, or because driving in its own right has become overly important and reinforcing.

As noted earlier Donovan, Marlatt and Salzberg (1983) found five sub-groups of drivers distinguished by scores on a variety of demographic, personality, attitudinal and alcohol measures. They developed a cognitive-behavioural model of high-risk driving and suggested that drinking and driving both may be expressive of the same psychological states, typically related to tension and anxiety over personal competence and power. In their hypothetical model, they considered the individual most at risk to be:

A young man characterised by a high level of underlying hostility and an aggressive disposition who drinks heavily and frequently, and who is deficient in those social skills involved in the appropriate expression of anger and management of stress, frustration or depression.

The individual is considered not to possess the necessary skills to cope with acute emotional stress, its precipitating situation or the resultant negative emotions. This is seen to reduce the person's sense of control leading to increased levels of stress, anxiety, hostility and helplessness as well as a decrease in self-esteem and the motivation to exert control. Drinking and/or driving are seen as a means of dealing (albeit inadequately) with negative affect. The hypothetical model proposed by Donovan is presented in Figure 1.

In this way Donovan et al. (1983) see the availability of a motor vehicle as a means of providing an alternative, although inappropriate, means of coping with a stressful situation and/or the negative affect arising from it. Essential in their model is the view that the persons cognitions (thoughts and beliefs) and emotions play an important part in any decision to drive. One flaw in the Donovan et al model is the lack of detail about such cognitions.



*Figure 1.* Hypothetical Cognitive Behavioural Model of Driving Offending.  
(Donovan, 1983).

Wilson (1996) attempted to clarify the role of such cognitions in DWD offenders. She developed a fifteen stage model of the reoffense process of repeat DWD offenders. The model identified the sequence of psychological, behavioural and environmental factors that contribute to DWD re-offending. Offenders could move through several alternative pathways before they came to re-offend. Included among these stages were six that specifically focused on the thoughts that were related to offending. For example, when deciding whether or not



to drive, cognitive distortions<sup>16</sup> were often given as reasons to drive which allowed the offender to view their upcoming driving as not their responsibility. In this way such thoughts acted to facilitate the driver moving to the next stage of the re-offending cycle. Wilson considered that:

These types of cognitions appear important to how, and how rapidly, the offender proceeds down the offense chain to eventual re-offending.

And

If a high level of driving related distortions were present in the offense chain they were more likely to... act as if they were not disqualified. Distortions at this point also meant that the offender was likely to re-offend more rapidly than an offender who employed few distortions.

While the specific number of offenders who selected different pathways was not stated, Wilson provides substantial support for cognitive distortions being important in the re-offending of DWD offenders. It also provides support for the relapse prevention approach as an intervention strategy for driving offenders.

#### Relapse Prevention as a Treatment Option

It is clear from the descriptions of both Donovan and Wilson that many driving offenders have little perceived control over their offending. As such they have much in common with people who have difficulty with addictions and compulsive behaviour. Relapse prevention developed by Marlatt and his colleagues provides a number of strategies and methods for the treatment of addictive and compulsive behaviour (Marlatt & Gordon, 1995; Marlatt, Baer, Donovan, & Kivlahan, 1988; Marlatt, Curry, & Gordon, 1988; Marlatt & Gordon, 1991). Relapse prevention was originally developed as a means of enhancing a client's self management skills in order to maintain treatment-produced behaviour change, but it

---

<sup>16</sup> Cognitive distortions include rationalisations, minimisations, incorrect beliefs, faulty logic, denial etc. which allow the offender to move closer to offending.

has also been adopted as a model to guide and structure therapy. This approach was primarily developed for use with addictive behaviours, such as alcoholism or smoking, where relapse rates are high. However, Marlatt and Gordon (1985) suggest that there are common components associated with the initial loss of control, regardless of the "addictive" substance or activity involved.

One of the central assumptions in the relapse prevention model is that the relapse process consists of a chain of behaviour occurring across time. This is in stark contrast to the view, held by many offenders, that relapse just occurs "out of the blue". This perspective implies control is possible, and has allowed a number of treatment strategies to be developed, each of which seeks to intervene at various points in the relapse chain and so disrupt the process. The usual rule of thumb is that earlier steps in the chain are easier to deal with than those more proximal to relapse itself. There are components of disqualified driving behaviour that are similar to other appetitive behaviours (e.g., reported "need" to drive, short term gain vs. long term loss, driving used as a coping behaviour etc.). A treatment approach based on relapse prevention has the potential to offer considerable advantages over the education and alcohol abuse treatments that have been tried so far.

### The Driving Offender Treatment Programme

The Driving Offender Treatment programme (DOT) was developed to treat DWD offenders using relapse prevention as a model for intervention. The programme used a combination of social skills, mood management and problem solving skills to provide offenders with strategies to apply at each part of the relapse process. A full description of the programme and its evaluation are described in the main body of this thesis. In short, the evaluation showed that reconviction for disqualified driving and criminal offending had been reduced by 18% and 10% respectively. No change was made to alcohol related driving.

The success of the programme in modifying offending has raised issues related to the measurement of the cognitions related to driving - the programme is designed to challenge cognitive distortions and modify these. Identifying what these are early on would be of advantage to the programme providers and possibly, to those who might refer offenders to such a programme. If high risk offenders were found to have more cognitive distortions (as suggested by

Wilson, 1996) or the type of distortions was related to treatment outcome then this would further support the relapse prevention model. It would also provide clear treatment goals for individual offenders. A further benefit would be if a self-report assessment instrument could be developed; this would reduce the necessity of lengthy assessment interviews used by Wilson (1996). She required three separate interviews to ensure the accuracy of the offense descriptions. A scale might also allow untrained interviewers to refer offenders to intervention programmes more appropriately.

For the above reasons, we developed the DOT scale. The staff of the original pilot programme developed the scale following the assessment interviews with the initial offenders. The material that follows describes how the instrument was developed and how the consistency and accuracy of the instrument have been tested. To help the reader through the successive stages each section is a mini study with introduction, methodology, results and discussion sections. At the conclusion of the four studies a general discussion is presented.

## Reliability

### Introduction

The reliability of a test tells us how consistently the scale measures behaviour, attitudes or beliefs. In its broadest sense, test reliability indicates the extent to which individual differences in test scores are due to real differences rather than due to chance errors (Anastasi, 1976). The reliability coefficient is generally obtained by giving the same test on two different occasions and correlating the individuals' scores. Correlations above .8 are considered to indicate that the test results can be generalised over different occasions and are less susceptible to the random daily changes in the condition of the subject or the testing environment. In the case of the DOT scale, a reliability coefficient of .8 would mean that offenders' scores on the scale would be similar and that differences between offenders represented real differences in the extent of their cognitive distortions about driving. A lack of reliability would indicate that although offenders might differ on DOT scale scores we could not be confident that this was due to differences in their beliefs; differences might be a consequence of error in the scale itself.

One method of establishing reliability is to look at the scores obtained by a subject on two different occasions. The scores are correlated to obtain the reliability coefficient. A second method is to consider the consistency of responses to all items in the test. This inter-item consistency increases as the behaviour or belief being sampled becomes more uniform.

The following two studies focus on these two measures of reliability.

## Internal Reliability

### **Introduction**

This first study provides a description of the development of the pool of scale items. Staff of the Driving Offender Treatment programme (DOT) at Rolleston prison originally developed the items. The 49 statements were developed from assessment interviews with the DOT participants. The items were tested with the original participants for comprehensibility and face validity (the items looked like they were about driving offending). On the basis of this work, 34 items were selected. The first study, described below, looked at the internal reliability, and factorial structure of the scale.

The internal reliability of a scale reflects how well each item contributes to the total scale score. Implicit in this measure is the view that the items measure the same thing. In our case, this means that each of the items measures driving offending beliefs and attitudes. To ensure that there is only one concept being measured factor analysis is used. Factor analysis assesses the interrelationship between the items by calculating the inter-correlations between all the items. These correlations may form distinct clusters, or factors, which represent similarities between the items. If the DOT scale measures one construct then there should be only one factor. A test with one factor is desirable because it allows easy interpretation of the score. The assumption here is that the test predicts something that is itself a single construct. If the behaviour, belief or attitude being measured has multiple features then the test would have to have multiple factors to accurately measure it.

### **Method**

#### Subjects and Procedure

The DOT scale was administered to 132 male offender subjects; 51 were members of the DOT programme tested before the programme and 81 were criminal controls who were not members of the programme. Participants filled out the scale in groups of 10-15.

### DOT Scale

Each of the items had a numbered scale beside it ranging from 1 (strongly agree) to 5 (strongly disagree). Twelve of the items were worded so that agreement indicated the absence of the cognitive distortion and the remaining items were worded in the opposite direction. The items and the correct direction for scoring are shown in Table 1. The items were totalled with higher scores indicating fewer cognitive distortions.

The scale was administered to subjects with the instructions written on the front cover stating "Read each of the statements below carefully and then circle the number that indicates your agreement with it".

## **Results and Discussion**

### Reliability and Factorial Structure of the Scale

The data were factor analysed using the principal - component analysis technique. As expected, one main factor emerged which accounted for 20.6% of the variance with an eigen value of 7.22. The eight remaining factors with eigenvalues<sup>17</sup> above 1 (considered the minimum score for a factor) had eigenvalues below 2.2. According to the scree<sup>18</sup> test shown in Figure 2, only one factor was

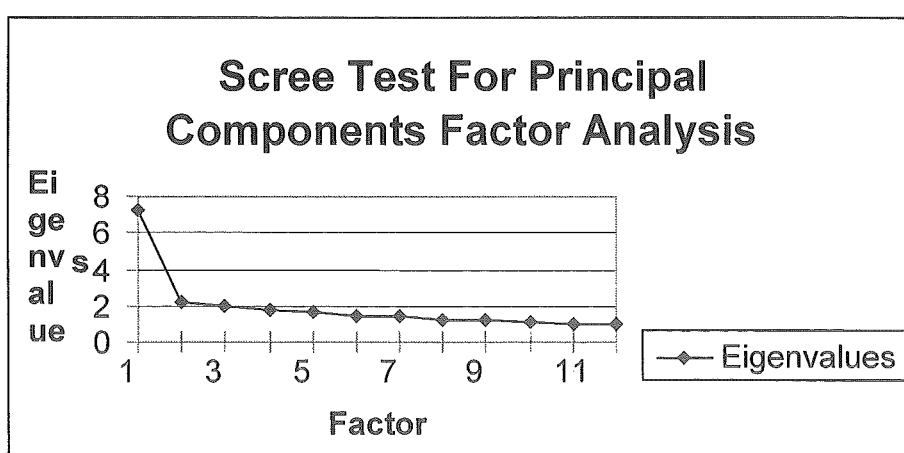


Figure 2. Scree Test For DOT Scale Factor Structure.

<sup>17</sup> The eigenvalues reflect the amount of variance associated with a factor.

<sup>18</sup> The scree test looks at the trend of the eigen values to determine whether one or more factors exist. The scree plot is provided in Appendix 1.

Table 1

*Means, Standard Deviations, Factor Loadings and Item-Total Correlations*

Scale Item	Mean	SD	Factor Loading	Item Total Correlation
1. Public Transport is not expensive, so I don't have to drive.*	3.42	1.27	0.32	0.30
2. When I am disqualified from driving and I drive I don't worry that the police will catch me.	3.71	1.44	0.42	0.36
3. I believe that most people that drive while disqualified get caught.*	3.35	1.37	0.40	0.34
4. When I have an argument with my partner I need to get out of the house so I have to drive.	3.29	1.44	0.65	0.56
5. I can get groceries without driving a car.*	3.78	1.34	0.38	0.32
6. I can't sit in the passenger seat of a car.	3.76	1.46	0.32	0.28
7. I can get to work without driving.*	3.60	1.46	0.32	0.29
8. I see no reason why I shouldn't drive while disqualified.	3.50	1.45	0.42	0.37
9. Driving is the best way of dealing with my anger.	3.85	1.39	0.54	0.49
10. Alcohol affects my driving.*	4.04	1.31	0.43	0.23
11. My partner can't drive so I have to.	3.61	1.38	0.55	0.49
12. No one else was around to drive me to where I had to go, so I drove myself.	3.05	1.52	0.66	0.58
13. Even though I'm disqualified there are times when I legitimately have to drive.	2.78	1.47	0.50	0.44
14. Taxis are too expensive so I must drive my car.	2.99	1.38	0.68	0.62
15. When I drive I'm actually a much safer and more careful driver.	2.61	1.35	0.42	0.36
16. Being allowed to drive helps my relationship(s).	2.92	1.47	0.33	0.27
17. Only women let other people drive them places.	4.12	1.00	0.42	0.26
18. You don't have to drive to get a job.*	3.15	1.48	0.43	0.36
19. I wasn't thinking about anything except getting home.	2.65	1.20	0.39	0.33
20. I can relax without needing to drive.*	3.74	3.84	0.48	0.45
21. My kids can get to school without me driving them.*	3.85	1.14	0.46	0.42
22. Most people who are disqualified still drive occasionally.	2.16	1.07	0.33	0.24
23. Having cars around me means I will want to drive them.	2.72	1.38	0.57	0.42
24. Buses run often enough so I don't have to drive a car.*	3.42	1.36	0.42	0.51
25. When I'm at the pub I am the safest driver, so I have to drive my mates home.	3.80	1.23	0.42	0.35
26. I can be a really father and not drive my kids places (examples school, playground, beach)*	3.53	1.24	0.42	0.38
27. I need to drive the car occasionally otherwise its condition will deteriorate.	3.73	1.23	0.45	0.37
28. Driving helps me get away from difficult situations (example an argument with someone).	3.17	1.43	0.59	0.51
29. After a while I get sick of having to get mates to drive me around.	2.23	1.21	0.48	0.42
30. I had to drive everyone home from the party because they were all drunk.	3.36	1.43	0.61	0.56
31. I feel like a real man when I'm driving.	3.67	1.18	0.53	0.45
32. I can have a social life without driving.*	3.64	1.34	0.25	0.23
33. I took my family out in the car to stop them nagging me.	3.68	1.17	0.45	0.41
34. A lot of stuff had been going on at home and I had to drive to get away from it, so I drove.	3.19	1.39	0.53	0.46

\* Item scored in the reverse direction.

retained. As can be seen in Table 1 all items loaded positively and significantly on this first factor.

The internal reliability analysis confirmed the factor analysis results. The corrected correlations between the items and the scale total score are also provided in Table 1. With a few exceptions, these are moderately strong and positive. The internal reliability coefficient (alpha) was .86. This result shows that the scale possesses adequate internal reliability and that it measures one construct - cognitive distortions related to driving offending.

### **Test Retest Reliability**

#### **Introduction**

Test - retest reliability refers to the consistency between two occasions on which an individual completes a scale. One of the problems with test - retest reliability is that if the time between tests is not long enough the person will remember what their answers were on the previous occasion. Generally, the longer the time between testing occasions the lower the correlation. The testing interval is usually kept short so that any changes that occur can be considered to be due to random errors in the test rather than developmental or experiential changes for the test taker. For example, a driving offender may have been to court for driving offending, or had a relationship fail, because of their driving and as a consequence, their beliefs related to driving change. The longer the period between testing episodes, the more likely such changes are to occur. Anastasi (1976) recommends that the longest time between test and retest should not exceed six months.

#### **Method**

Two sets of data were collected for this study: 26 non driving offenders tested at an interval of 18 days and 51 driving offenders who were not participants in the DOT programme were tested at an interval of 60 days. The first set of data was gathered in groups of 8 offenders. The second data was collected from both individuals and groups.



## Results and Discussion

The first set of offenders was drawn from a sex offenders unit. An offender group other than drivers was chosen to test both the reliability and to see if the scores of sex offenders were substantially different from driving offenders. This gave an opportunity to assess validity by a contrast group i.e., the cognitions about driving offending were different (presumably with more cognitive distortions) for driving offenders than sex offenders.

The means and standard deviations of the first and second tests is shown in Table 2. The correlation between first and second tests was .75. This was considered acceptable.

Table 2

*Test Retest Correlation, Means and Standard Deviations*

	Test 1	Test 2
<b>Std</b>	15.26	15.9
<b>Mean</b>	116.7	117.1
<b>Correlation</b>	0.75	

The second sample of 51 driving offenders was used as a control group against which the DOT participants test scores could be compared. They were all prisoners. The test retest correlation for this group after 60 days was .63. Both of these correlations are significant and are acceptable given the long retest period for the second study and that the scale is an attitudinal scale.

## Validity

### Introduction

The validity of a test encompasses what the test measures and how well it does so (Anastasi 1976). In practice this involves determining the relationships between test scores and other independently observable facts about the behaviour or cognitions being measured. In the case of driving offenders' cognitive distortions, this means finding some observable evidence of such distortions and establishing the strength of the correlation between DOT scale scores and this evidence.

There are three principal ways of determining validity: content validity - how well the items cover the domain being measured, criterion related validity - how well the test predicts a persons behaviour in a specific situation, and construct validity - how well the test measures a theoretical construct or trait.

For the DOT scale content validity was established by attempting to construct a representative sample of items that related to driving. Interviews with driving offenders were used to identify the specific beliefs they had that made driving easier for them. Many of the items were the actual expressions used by the offenders.

Construct validity is difficult to establish when the theoretical construct has in the past only been indirectly assessed through interviews. More important in assessing the validity of the DOT scale is criterion-related validity.

Criterion related validity is found by comparing performance on the test with a criterion i.e. an independent measure of that which the test is designed to predict. The relationship between the test and the criterion can be established by measuring the criterion either at the same time as the scale is used, which is called concurrent validity, or after the scale has been used, which is called predictive validity. The following studies provide the results for the DOT scale concurrent and predictive criteria.

## Concurrent Validity

### Introduction

Concurrent validity refers to an independent criterion against which the DOT scores can be compared at the time of testing. The available criteria against which the DOT scale can be compared are largely limited to the traffic offense histories of offenders or their self-reports through interview. The use of interview information is problematic, as developing scoring procedures for such qualitative data is difficult. In addition, interview information was not available for the two control groups or for the majority of the Driving Offender Treatment programme participants.

We still need to determine whether traffic offending is linked to cognitions related to driving. Wilson (1996) suggests that such cognitions are involved in the relapse process of driving offenders. The relationship with traffic offending should therefore be strong.

### Method

The traffic and criminal histories of the driving offenders of the 51 DOT participants were obtained. This information was summarised so that the number of previous convictions for driving while disqualified and alcohol related driving were totalled. The correlations between driving offense variables and DOT scale score were then obtained.

### Results and Discussion

The results of the correlations as well as the means and standard deviations for the traffic history variables are presented in Table 3.

The correlations show that there is a nearly significant relationship between DOT score and previous DWD offending and a significant relationship between previous EBA offenses and DOT score. The relationship with EBA offending suggests that driving cognitive distortions are more severe in offenders with extensive alcohol related traffic histories. If a larger sample was chosen it is likely that the DWD offending would also be significant. It seems therefore that there

Table 3

*Correlation between previous DWD and EBA offending and DOT scale score*

	R(X,Y)	p	n	Mean Conviction	STD	Mean Dot Score	STD Y
DWD-DOT	0.219	0.063	51	7.08	5.37	101.5	11.18
PEBA-DOT	0.336	0.003	51	3.27	3.27	101.5	11.18

is some support for the scale having significant concurrent validity. While the correlations are modest they do show that the construct of driving related cognitive distortions is associated with high levels of driving offending.

## Predictive Validity

### Introduction

Another form of criterion related validity is predictive validity. We can follow up the driving offenders who completed the DOT scale to see whether those with lower scores (and therefore agreed with the cognitive distortions) were reconvicted more often.

### Method

The 51 offenders for whom traffic histories were available were followed up for an average of 225 days. The time to the end of follow up or to a new traffic offense (where it occurred) was calculated. Survival analysis was then used to determine whether DOT scale score could predict survival time.

### Results and Discussion

The results of the survival analysis for driving while disqualified and alcohol related driving presented in Tables 4 shows that DOT scale score did not significantly predict survival times although the p value approached significance. The data were re-analysed after the DOT score was grouped into four approximately equal categories<sup>19</sup>. The subsequent survival analysis is reported in Table 5

Table 4

*Survival Analysis of DOT Score for Time to Re-offense for driving while disqualified*

	Beta	Standard Error	t-value	Exponent Beta	Wald Statist.	p
<b>Dotscore</b>	-0.598392	0.325401	-1.838935	0.549695	3.381682	0.065934

---

<sup>19</sup> Kleinbaum (1997) suggests that continuous variables be recoded into categorical variables for the purposes of survival analysis.

Table 5  
*Survival Analysis of DOT Score for Time to Re-offense for DWD following recoding of dot scale scores into four categories*

	Beta	Standard Error	t-value	Exponent Beta	Wald Statist.	p
Dotscore	-0.575057	0.287979	-1.996875	0.562673	3.987508	0.045847

We can see that it has been possible to demonstrate predictive validity after grouping DOT scale score into a categorical variable with four categories, rather than using it as a continuous variable. There does seem to be a relationship between subsequent traffic offending and the DOT scale score.

### General Discussion

The four studies have shown that the internal consistency of the DOT scale is at acceptable levels (above .8) and there is a single construct being measured, cognitions related to driving offending. The test retest reliability correlation with a control group of non-drivers was considered acceptable at  $r = .75$ . The driving offender control group yielded an acceptable reliability score ( $r = .63$ ) even though the time between tests was three times longer. It seems that for driving offenders the scale does have acceptable reliability. Criterion validity, using traffic conviction history as the criterion, produced a significant correlation for DOT scale score and previous EBA offenses and an almost significant relationship with previous DWD offending. Predictive validity, using time to subsequent DWD offending as the criterion, produced a significant relationship with DOT scale scores. This means that high scores on the DOT scale, indicating fewer distortions, are associated with longer survival times before offending.

It seems that the scale has some value as a tool to measure risk of re-offending for a DWD offense. The four categories used to establish predictive validity suggest that a cut-off can be set at a score of 125. Offenders above this are less likely than offenders in the lowest group (scoring  $< 101$  on the DOT scale) to offend.

Wilson (1996) identified that cognitive distortions are important mediating factors in driving offenders' offense chains. The attempt to measure these with the DOT scale has met with some success. While the correlations and strength of the relationships are relatively small (although significant), given the developmental nature of the scale the results are important. It is possible to measure driving offenders' cognitions with a self-report instrument and they appear to remain relatively stable over time.

Another important consideration is that the relationship between cognitive distortions and previous and subsequent traffic offending provides evidence that modifying these might reduce reconviction. Bakker (1997) has tested the premise of this in the DOT programme for disqualified drivers. In this study a significant increase in DOT scale scores was found for those who completed the cognitive behavioural treatment programme.

A further development that is possible relates to the work of Wilson (1996). She identified several different possible pathways that offenders followed in their relapse chain. The cognitive distortions associated with these were different. There might, therefore, be considerable variation in the item scores depending upon the specific pathways an offender might follow and their associated cognitive distortions. While Wilson identified cognitive distortions as important mediating influences in the process she did not provide any indication of the proportions of offenders who chose particular pathways in her model. If offenders vary significantly on these then it might add greater variance to scale scores - indeed there might need to be sub-scales incorporated to account for these differences. Only some of the pathways identified by Wilson involve explicit planning or decision making. Therefore, many offenders may not be aware of the thoughts they have, and choices they make, in any conscious fashion. Further data collection may provide some indications of whether these different pathways equate to different items of the DOT scale. In other words sub-scales of the DOT scale might exist and identify different potential interventions for offenders. Utilising Wilson's procedure and comparing scale scores could test this.

Wilson required considerable probing (three interviews) to obtain detailed descriptions of subjects' previous offenses. The DOT scale was designed to reduce the time required for this process and to assist assessors in deciding upon the risk posed by offenders. The DOT scale has demonstrated it has some value in doing this.

### **Is the DOT Scale Good Enough?**

The DOT scale has some experimental support (including the theoretical work of Donovan, 1983 and Wilson, 1996) as being a measure of cognitions relevant to driving offending. It was hoped that the scale would reduce the time needed to assess offenders as being at risk of further offending. It was hoped that it would also highlight the specific cognitive distortions that would be targets for intervention. The scale does this to some degree. While the relationship between the scale and offending is not strong it is nevertheless significant and takes considerably less time than an interview. As a measure of treatment impact it would be useful for assessing driving offenders' change over treatment. The scale also has value in



identifying those for whom further intervention is required - those in the lowest category of a score below 101.

If we wished to explore the cognitive distortions of offenders more thoroughly we would want to improve the scale. The problem with many items in the scale is that more effort in selection of the items would have reduced the difficulties offenders had in gauging their level of agreement with the statements. Additional exploration of the level of awareness driving offenders have of their cognitions related to driving, might provide better scale items. This is particularly important if the schemas that driving offenders have are largely automated and their awareness of the cognitive distortions associated with them, as suggested by Wilson's research, is low.

Given that the majority of the offenders who completed the scale also had criminal convictions it is possible that "pure" traffic offenders might be better measured by the scale. However, these offenders are unlikely to be serious enough to warrant prioritisation for assessment and intervention.

### Conclusions

We have shown that the DOT scale seems to have good internal and test- retest reliability. The scale also has significant validity. This means that the scale measures cognitions consistently for driving offenders and scale scores, when grouped into four bands, are related to traffic offending. It appears that the DOT scale has some value for distinguishing high risk from low risk offenders and for measuring treatment change following a treatment programme such as the DOT programme.

### References

- Anastasi, C. (1976). *Psychological Testing* Fourth Edition Macmillan Publishing Co., Inc.
- Bailey, J. (1992). *Disqualified Drivers in New Zealand, 1991*. Unpublished manuscript. Department of Scientific and Industrial Research, Lower Hutt.
- Bailey, J. (1991). *Trends and variations in actual penalties for convicted drinking drivers 1986-1989* (Chemistry Division, DSIR Report No. CD2420). Department of Scientific and Industrial Research, Lower Hutt.
- Bailey, J. (1993). *A Study of the Traffic and Criminal Conviction Histories of Disqualified Drivers as at 1991 in New Zealand*. Institute of Environmental Health and Forensic Sciences, Lower Hutt.
- Bakker, L. (1995). *Re-offending rates of disqualified drivers*. Unpublished data.
- Bakker, L. & O'Malley, A. J. (1998). *End of The Road: Identifying High Risk Traffic Offenders*. Psychological Service, Department of Corrections Report.
- Bakker, L., Ward, T., Cryer, M. & Hudson, S. (1997). *Out of the Rut: A Cognitive Behavioral Treatment Programme for Driving While Disqualified Drivers*. Behaviour Change 14, 29-38.
- Bakker, L., Hudson, S., Wales, D. & Riley, D. N. (1998). *And there was Light: Evaluating the Kia Marama Treatment Programme for New Zealand Sex Offenders Against Children*. Psychological Service, Department of Corrections Report.
- Braybrook, B. & Southey, P. (1991). *Census of Prison Inmates*. Wellington, NZ.:Department of Justice.

- Connors, G. J., Maisto, S. A. & Ersner-Hershfeld, S. M. (1986). Behavioural Treatment of drunk-driving recidivists: Short-term and long-term effects. *Behavioral Psychotherapy*, 14, 34-45.
- Donovan, D M. (1989). Driving while intoxicated. Different roads to and from the problem. *Criminal Justice and Behavior*, 16, 270-298.
- Donovan, D. M., & Marlatt, G. A. (1982). Personality subtypes among driving-while-intoxicated offenders: Relationship to drinking behaviour and driving risk. *Journal of Consulting and Clinical Psychology*, 50, 241-249.
- Donovan, D. M., Marlatt, G. A., & Salzberg, P. M. (1983). Drinking behavior, personality factors and high-risk driving. *Journal of Studies on Alcohol*, 44, 395-428.
- Horton, J. (1993). *Characteristics of People who Repeatedly Drive While Disqualified*. Unpublished Masters Thesis, University of Canterbury.
- Laws, D. R. *Relapse Prevention with Sex Offenders*, New York, Guilford Press, 1989.
- Marlatt, G. A., Baer, J S., Donovan, D M., & Kivlahan, D R. (1988). Addictive behaviors: Etiology and treatment. *Annual Review of Psychology*, 39, 223-252.
- Marlatt, G. A., & Gordon, J R. (Eds.). (1985). *Relapse Prevention: Maintenance Strategies in the Treatment of Addictive Behaviors*. New York: Guilford Press.
- Marlatt, G. A., & Gordon, J. R. (1991). Relapse prevention: Future directions. In M. Gossop (Ed.), *Relapse in Addictive Behaviour* (pp. 278-291). Beckinham, Kent:Croomhelm.

- Mirrlees-Black, C. (1994) *Disqualification from Driving: An Effective Penalty?* Research and Planning Unit Paper 74. London: Home Office.
- O'Malley A. J. (1996). *Statistical Models for Recidivism*. Unpublished Report. Department of Mathematics and Statistics, University of Canterbury, New Zealand.
- Spier, P., Norris, M., & Southey, P. (1993). *Convictions and Sentencing of Offenders in New Zealand: 1982 to 1991*. Policy and Research Division, Justice Department Report.
- Tsuang, M T., Boor, M., & Flemming, J A. (1985). *Psychiatric Aspects of Traffic Accidents*. American Journal of Psychiatry, 142, 538-546.
- Ward, T., & Hudson, S. M. (1996). Relapse Prevention: A Critical Analysis. *Sexual Abuse: A Journal of Research and Treatment* 8:177-200.
- Wells-Parker, E., Cosby, P. L., & Landrum, J W. (1986). A typology for drinking driving offenders: Methods for classification and policy implications. *Accident Analysis and Prevention*, 18, 443-453.
- Wilson, L. (1996). *A model of the reoffense process of recidivist driving while disqualified offenders in New Zealand*. Unpublished Masters Thesis.

## Appendix 2: Driving Offender Treatment Programme Information for

### Participants

#### An Introduction to the Rolleston Driving While Disqualified Treatment Programme

A treatment programme for people convicted of driving offenses has recently been established at the West Wing at Rolleston Prison. It is staffed by three psychologists, two probation officers, and a secretary.

The treatment programme runs for 10 weeks, and offers intensive group therapy for those imprisoned for driving offenses. We only accept people who volunteer to do the programme and who also understand what it involves.

Our view is that people who get numerous driving re-convictions face unique problems. We have prepared a treatment programme addressing these problems. By participating in this programme you would learn ways of decreasing the likelihood of committing further driving offenses, as well as learning skills that can assist you in your everyday life such as social skills, anger management, and problem solving techniques.

The first two weeks of the programme concentrate on helping you understand the nature of your offending. You will also learn a variety of skills which will assist with ongoing difficulties. Finally, in the last three weeks of the programme, you will learn ways of coping with difficulties that may arise in the future.

Here is a brief outline of the programme:

#### **Assessment and Review of the Programme**

During the assessment phase, we aim to get an understanding of your offending history, as well as your personal and family background, and the ways in which you interact with others.

We do this in three ways:

1. Individual interviews with a therapist;
2. Questionnaires;

3. Assessment of physiological changes, including heart rate and blood pressure when you think about driving.

This gives us a chance to get to know you and gain a clear picture of what your particular problems may be. From this, we can provide you with the best possible treatment to assist you to stop offending.

### **Treatment: 9 Weeks**

Treatment is done in groups of 8-10 people with one or two therapists per group throughout the programme, and is divided into six parts.

#### *Part 1: Cognitive Restructuring – 1½ weeks*

When people who have been disqualified from driving get in their car and drive, they generally try to find reasons to justify it. This kind of reasoning and justification usually encourages them to continue offending. In the groups you will learn to identify the reasons or excuses you have used as well as learning to look at your offenses in more appropriate ways.

#### *Part 2: Behavioural Reconditioning – One session overview with ongoing assistance*

Heightens and addresses the negative results of driving while disqualified.

#### *Part 3: Social Skills – One week*

In this group you will learn the skills necessary to be assertive, express your feelings and relate effectively to other adults, e.g., Resolving relationship conflicts.

#### *Part 4: Anger Management – Two weeks*

In this group, you will learn appropriate ways of dealing with anger, particularly as it relates to your driving offending.

#### *Part 5: Problem Solving – 1½ weeks*

In this group you will learn how to define a problem, think of alternative solutions, weigh up the consequences of these and how to evaluate your final solution. We will apply this model to problems you have experienced in your daily life.

*Part 6: Relapse Prevention – Three weeks*

In this group, we will help you identify situations that could put you at a high risk of re-offending. You will learn a wide range of skills to help you cope effectively and decrease the risk of driving while disqualified in the future.

Additional group activities will address alcohol and drug problems.

**Reassessment: One week**

Reassessment will follow the same format as the initial assessment. This means we can identify the changes you have made and evaluate the programme overall.

**Follow-Up:**

A post-release programme involving monthly meetings will be arranged for those people living in the Christchurch area. This will be run by members of the therapy team.

We hope you decide to take this opportunity.